



WALL STREET PREP TRAINING MANUAL

# Leveraged Buyout (LBO) Modeling

# Our roadmap

- LBO Basics and Current Trends
- The Structure of Private Equity and the PE Waterfall
- Modeling the BMC LBO
- Sensitivity Analysis and Purchase Price Allocation
- Adding a DCF Analysis into an LBO Model

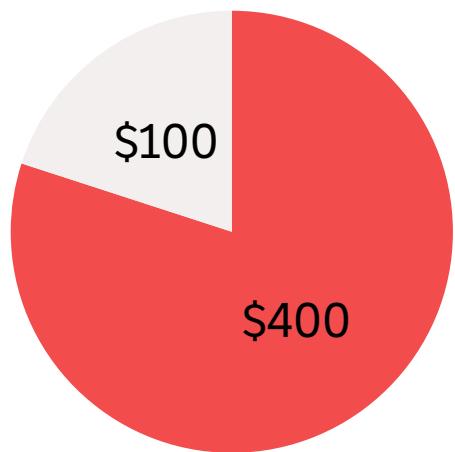
# Leveraged buyout (LBO)

- Acquisition where a significant part of the purchase price is funded with debt
- The remaining portion is funded with equity by the financial sponsors (private equity “PE” investors)
- Company undergoes a recapitalization to a now highly leveraged financial structure
- Company becomes a new company – from oldco to newco
- Companies acquired by PE can be either private or public

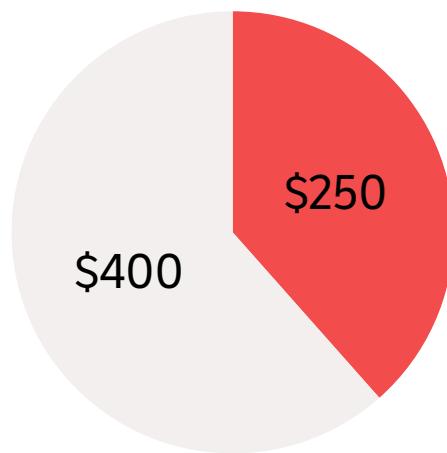
# What is the basic intuition underlying an LBO?

- If you've bought a house with a mortgage, you've done an LBO (basically):

## Buying a \$500k house



## Selling a \$650k house



You sell the house 5 years later, assuming you've paid down \$150 of the mortgage and house price increased 30%

■ Mortgage ■ Equity

**Equity investor IRR = 32%**  
**Cash-on-cash return<sup>1</sup> = 4.0x**

■ Mortgage ■ Equity

<sup>1</sup> Also referred to as Multiple-of-Investment or MOI

# LBO analysis on a cocktail napkin

- Before we dive into the full-scale model, let's get the LBO mechanics under our belt using the Dell LBO as our case study



# LBO analysis on a cocktail napkin

## The offer

- In February 2013, Michael Dell and Silver Lake (“the sponsors”) offered Dell shareholders \$13.88 per share
- There were 1.69b shares outstanding
- Dell Inc. has \$1.4b in debt, which would be refinanced in the deal
- LTM EBITDA was \$3.5b

## The financing

- The sponsors were able to secure \$11.5b in debt financing
- There was also \$7.7b in cash on Dell Inc.’s B/S. They planned to use all of it to help fund the deal
- The remainder would be funded with equity

## The exit assumptions

- Exit is assumed 5 years post-LBO
- Assume the same LTM EBITDA at exit as the current EBITDA
- Assume exit at the same EV/LTM EBITDA multiple as the current multiple
- Assume debt is fully paid down
- Assume no cash on the B/S

# What is the expected IRR of this deal?

Use of funds		Current valuation	
Buyout of equity		EBITDA	3.50
Oldco debt refinanced		EV	
Total uses		EV/EBITDA	
Source of funds		Exit assumptions	
Debt	11.5	EV/EBITDA	
Existing cash on B/S	7.7	EBITDA	3.50
Equity		Enterprise value	
Total sources of funds		Debt	0.0
		Cash	0.0
		Equity value	
		Equity IRR	

# What is the expected IRR of this deal?

<b>Use of funds</b>		<b>Current valuation</b>	
		EBITDA	3.50
		EV	17.30
Total uses		EV/EBITDA	4.9x
<b>Source of funds</b>		Exit assumptions	
Debt	11.5	EV/EBITDA	4.9x
Existing cash on B/S	7.7	EBITDA	3.50
Equity	5.8	Enterprise value	17.30
Total sources of funds	25.0	Debt	0.0
		Cash	0.0
		Equity value	17.30
		Equity IRR	24.8%

# **What is the basic intuition underlying an LBO?**

- Financial sponsors finance deals with a lot of debt and put up a relatively small amount of equity
- As debt is paid down and the value of the business grows, sponsors earn large returns
- Key drivers of success are:
  - Getting in cheap
  - Levering with a lot of cheap debt
  - Improving the business (growing EBITDA)
  - Exiting within 3-5 years at high multiple

# What is the basic intuition underlying an LBO?

- Sponsors hope to monetize their profits by:
  - Selling to a strategic or another PE firm
  - Selling to public via IPO
- Alternatively, sponsors can monetize without a complete exit by giving themselves dividends financed via newly borrowed debt (dividend recap)

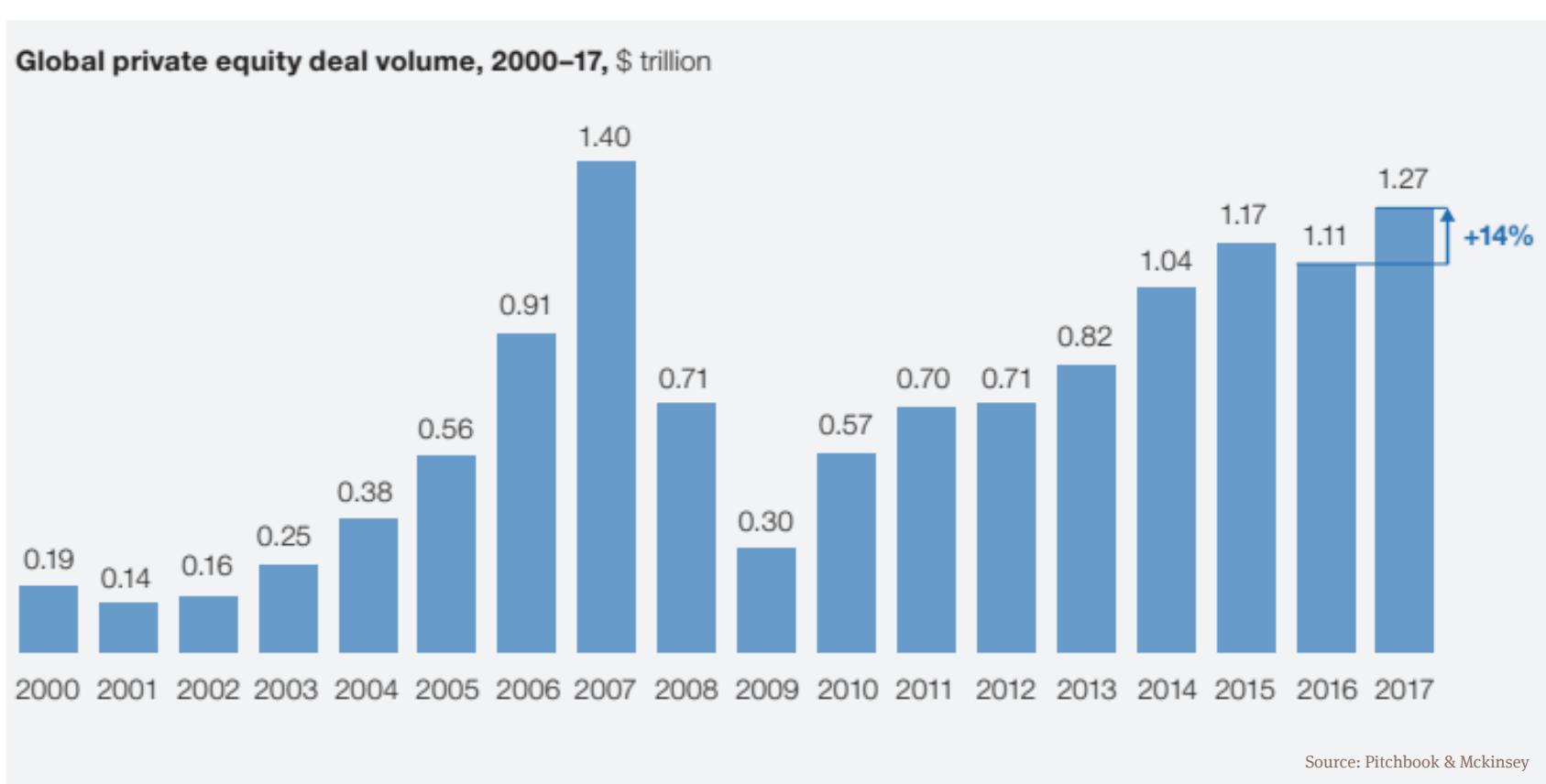


# **What do investors look for in a good LBO?**

- Steady cash flows with little cyclical
- Minimal ongoing capital expenditures and working capital needs
- Suboptimal capital structure (i.e. low leverage so value from tax savings not fully realized)
- Deemed undervalued in the market / low multiple / company fallen out of favor
- Strong management unchained from public demands
- Subsidiaries can be sold to pay down debt

# Deal environment - volume

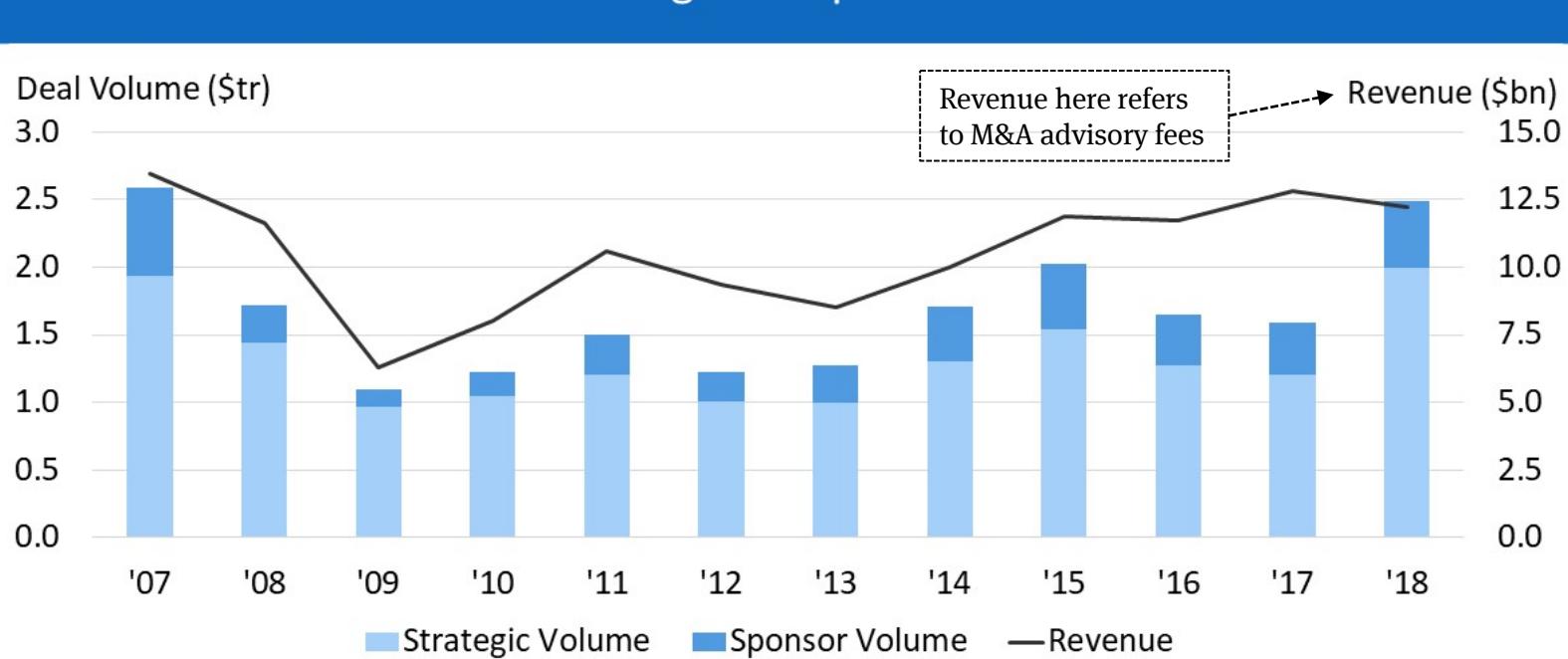
- **Private equity deal volume:** Steady growth since 2009



# Deal environment - volume

- PE as % of total M&A: ~10% of total deal count, ~20% of deal volume in recent years

Global Strategic vs. Sponsor M&A H1



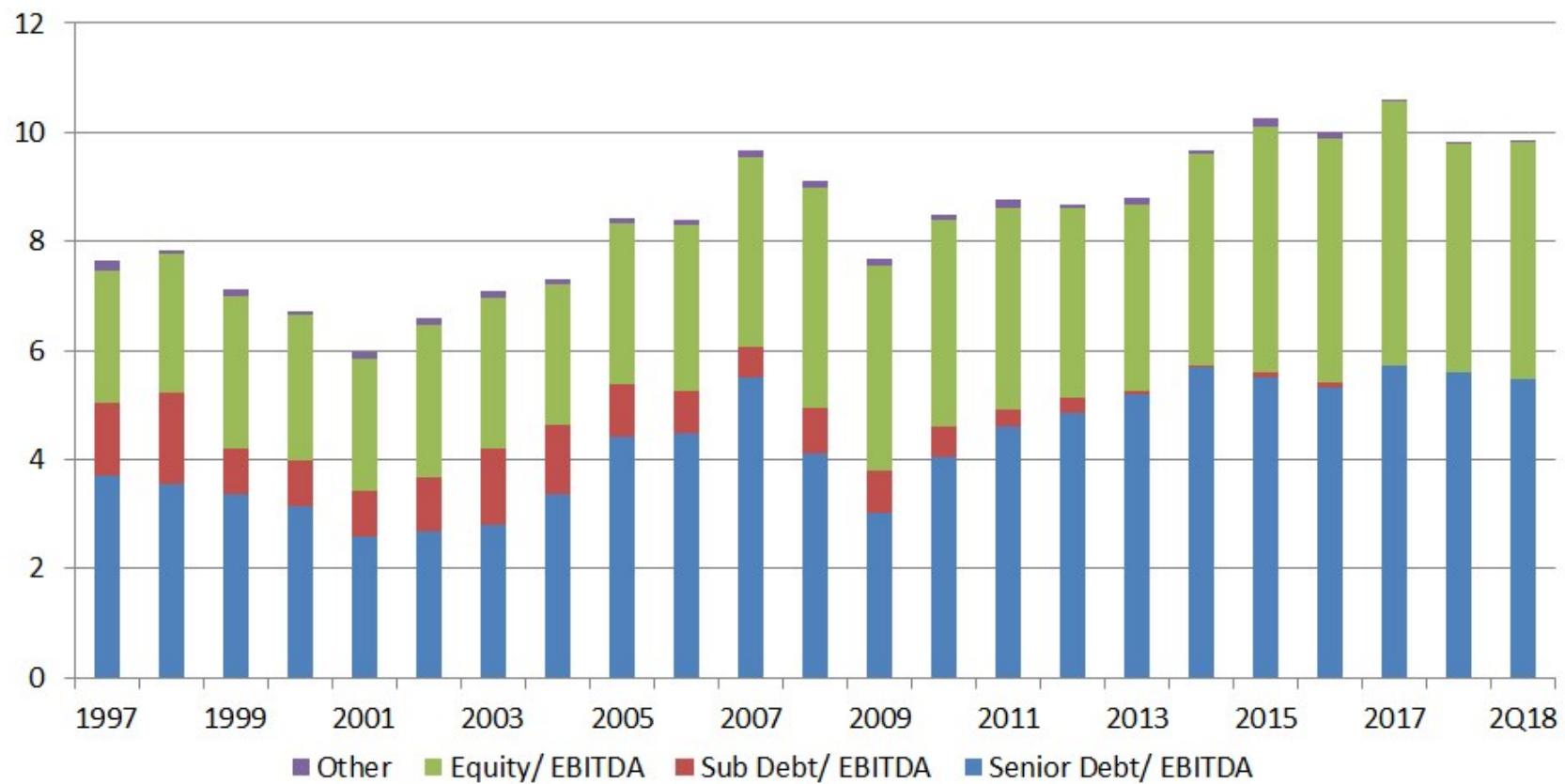
As of June 30, 2018

**dealogic**

# Deal environment - valuation

- Is PE overheated? Valuation multiples at historic highs...

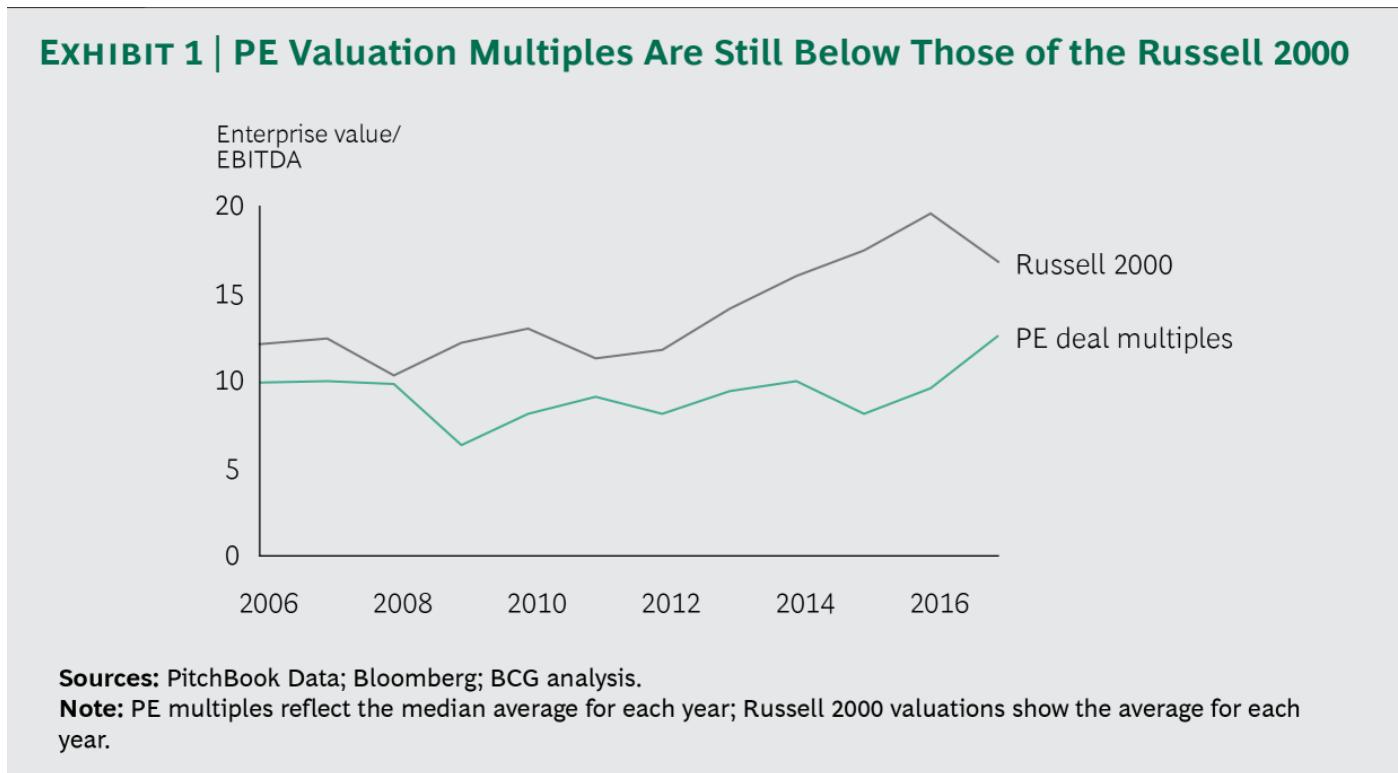
Purchase Price Multiples - US LBOs



Source: S&P Capital IQ, LCD

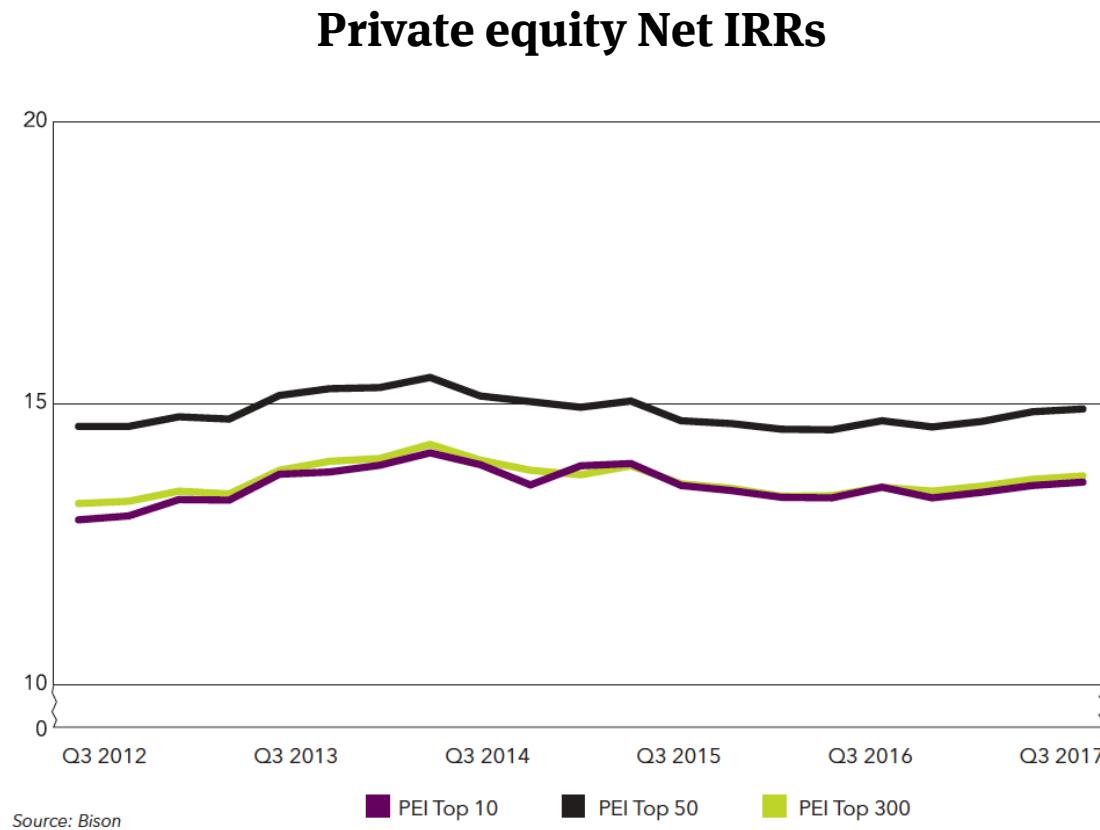
# Deal environment - valuation

- Multiples paid by PE **need to be lower** than strategic
  - Why? Absence of synergies



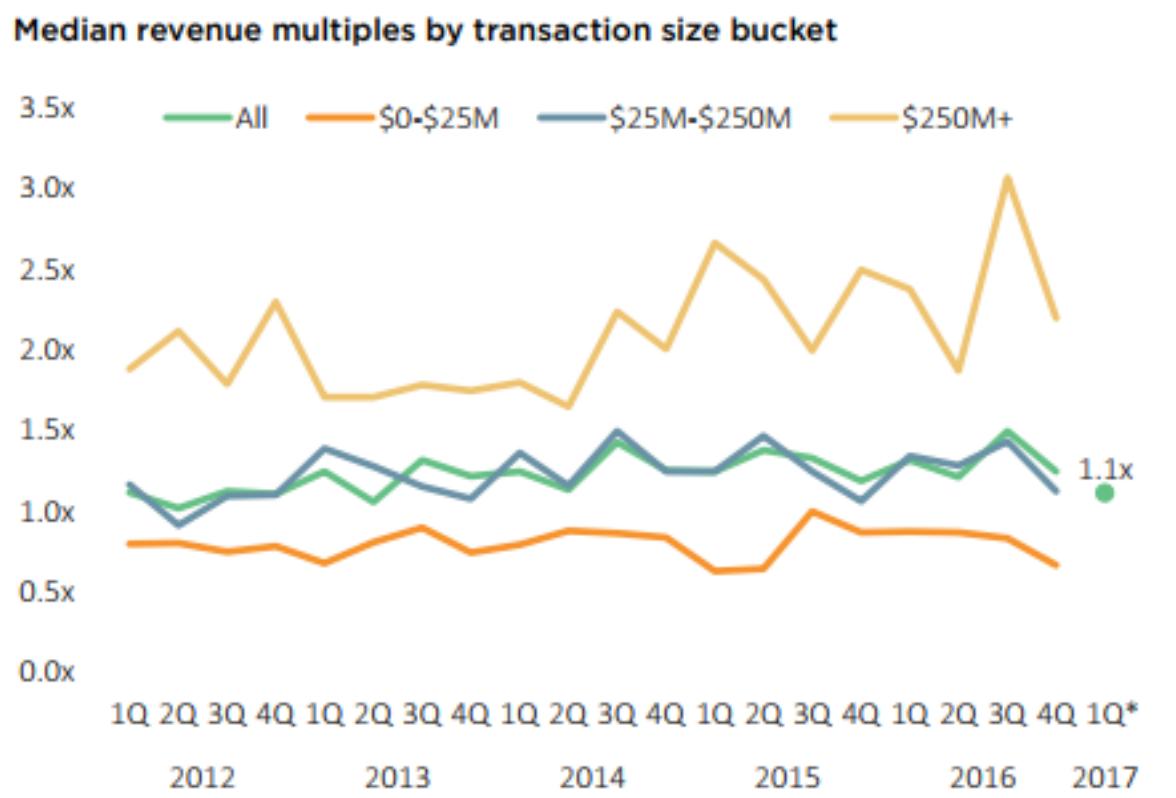
# Deal environment - valuation

- Returns still good, will this last forever?



# Deal environment - valuation

- Smaller-deal multiples lower than larger deals, which has pushed PE into middle market since the financial crisis



Source: PitchBook

\*As of 2/28/2017. Note: we excluded revenue multiples broken out by size buckets in 1Q 2017 as sample sizes were insufficiently robust.

# Deal environment – deal size

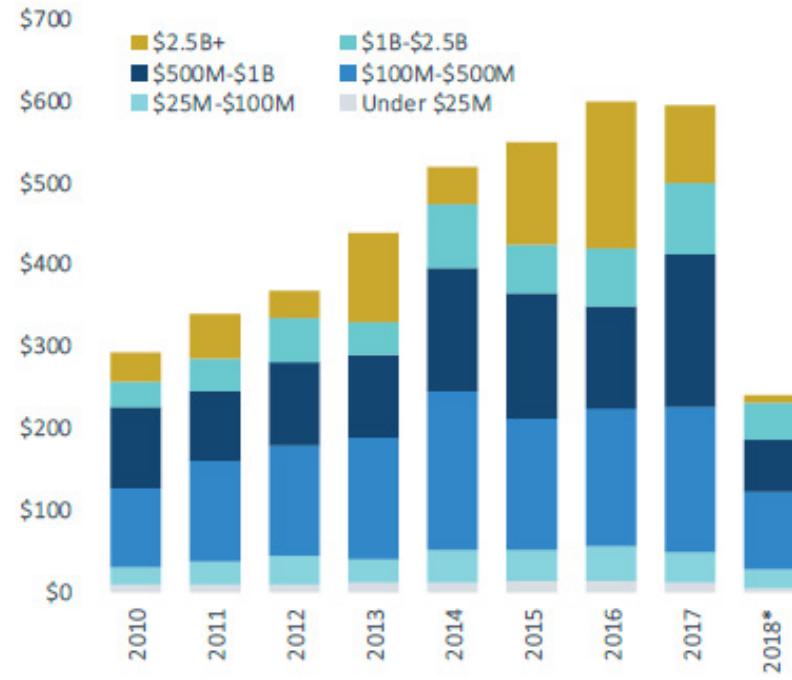
- Middle-market (< \$500m EV) deals account for most deals but larger deals still account for significant volume

US PE activity (#) by size



Source: PitchBook  
\*As of June 30, 2018

US PE activity (\$B) by size



Source: PitchBook  
\*As of June 30, 2018

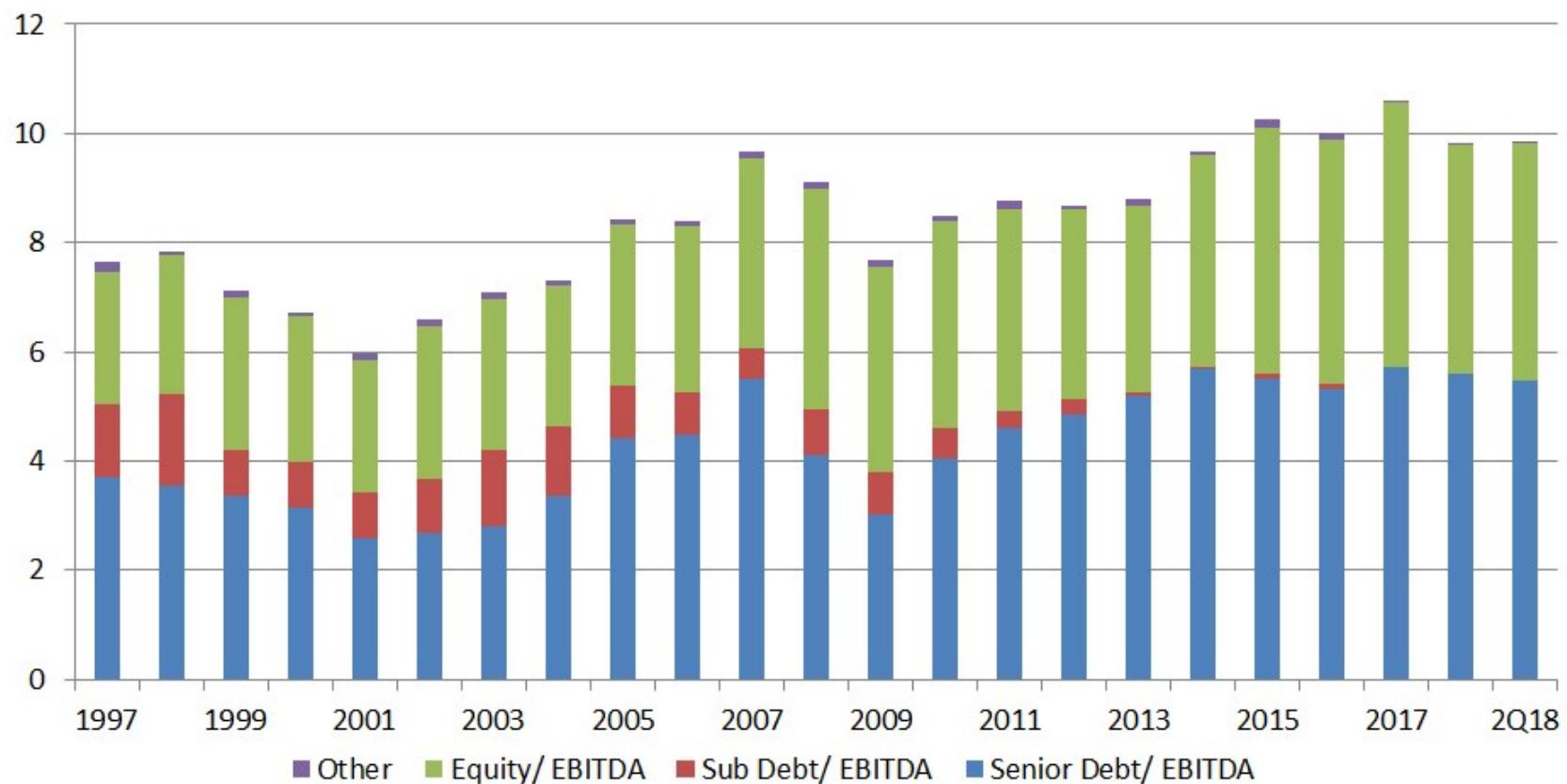
## **Deal environment - leverage**

- On the heels of the financial crisis, regulators in 2013 ominously noted they'd view lending to firms with debt/EBITDA over 6.0x as “problematic”
- This initially kept leverage at bay. Since then...

# Deal environment - leverage

- ...as purchase price multiples have grown...

Purchase Price Multiples - US LBOs



# Deal environment - leverage

- ...and concerns regarding this warning fading<sup>1</sup>, leverage has crept back up
  - 53% of US LBOs levered at 6.0x or higher by 2018

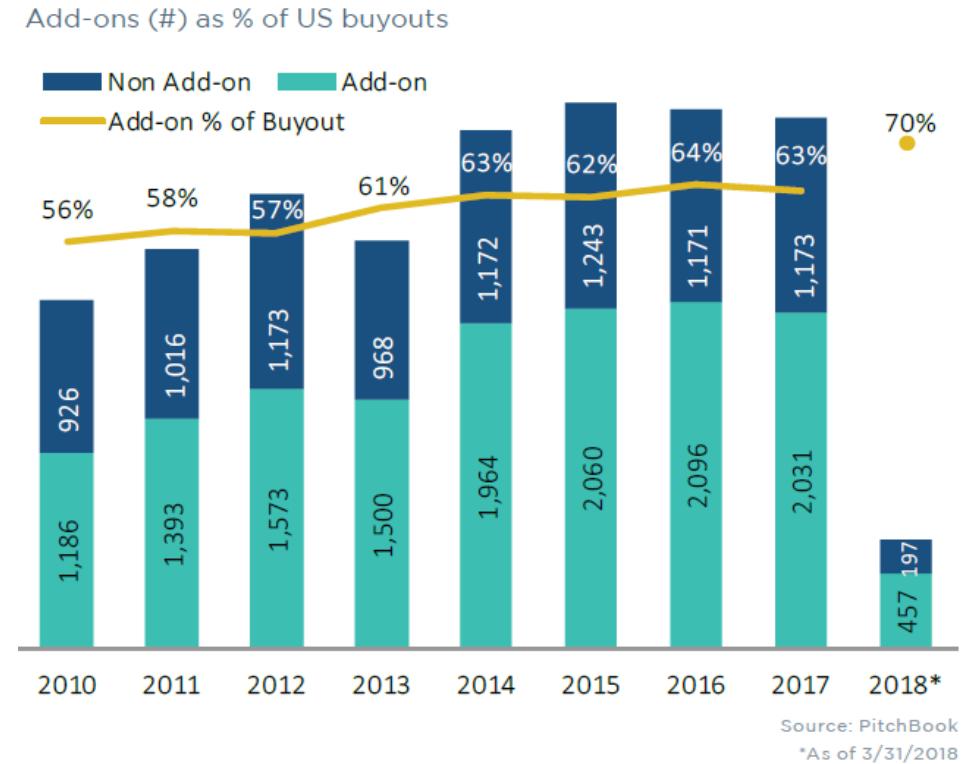


<sup>1</sup> In 2018, Comptroller of the Currently Joseph Otting made comments interpreted as scaling back the 2013 warning: "Banks "have the right to do what they want [regarding leveraged lending] as long as it does not impact safety and soundness."

Source: <https://www.reuters.com/article/us-usa-banks-lending-otting/banks-can-do-what-they-want-in-leveraged-lending-otting-idUSKCN1GC0B5>

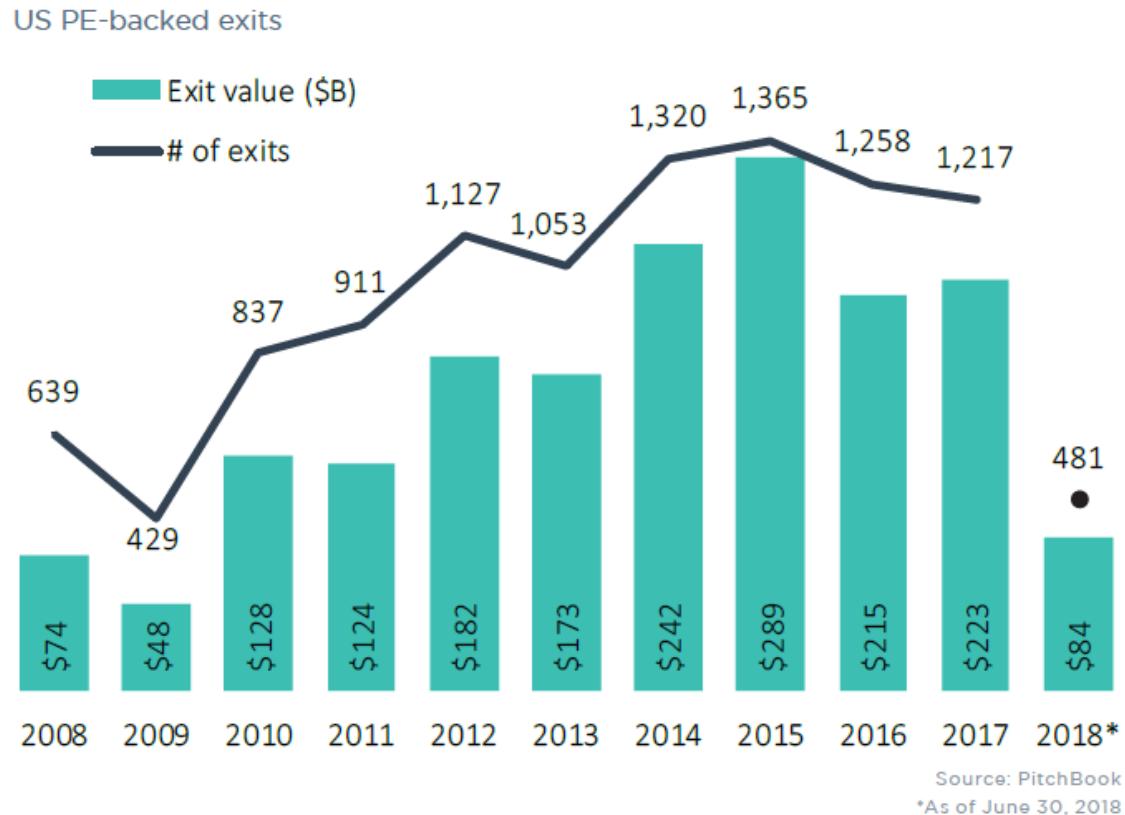
# Deal environment – deal type

- **Add-ons vs. buyouts:** Since the crisis, sponsors have hunted for “add-ons” – lower multiple smaller companies to bolt onto existing buyouts “platforms”
- Improves competition with strategics



# Deal environment – deal type

- Exits #s declining a bit as platform / add-ons increase holding periods



# Deal environment – deal type

- Despite being a very small % of the # of PE deals (1.4% in 2018), the most high profile type of PE deal is **Public-to-private**

Off the market: Public companies go private

The biggest leveraged buyouts, by company value (excluding debt)



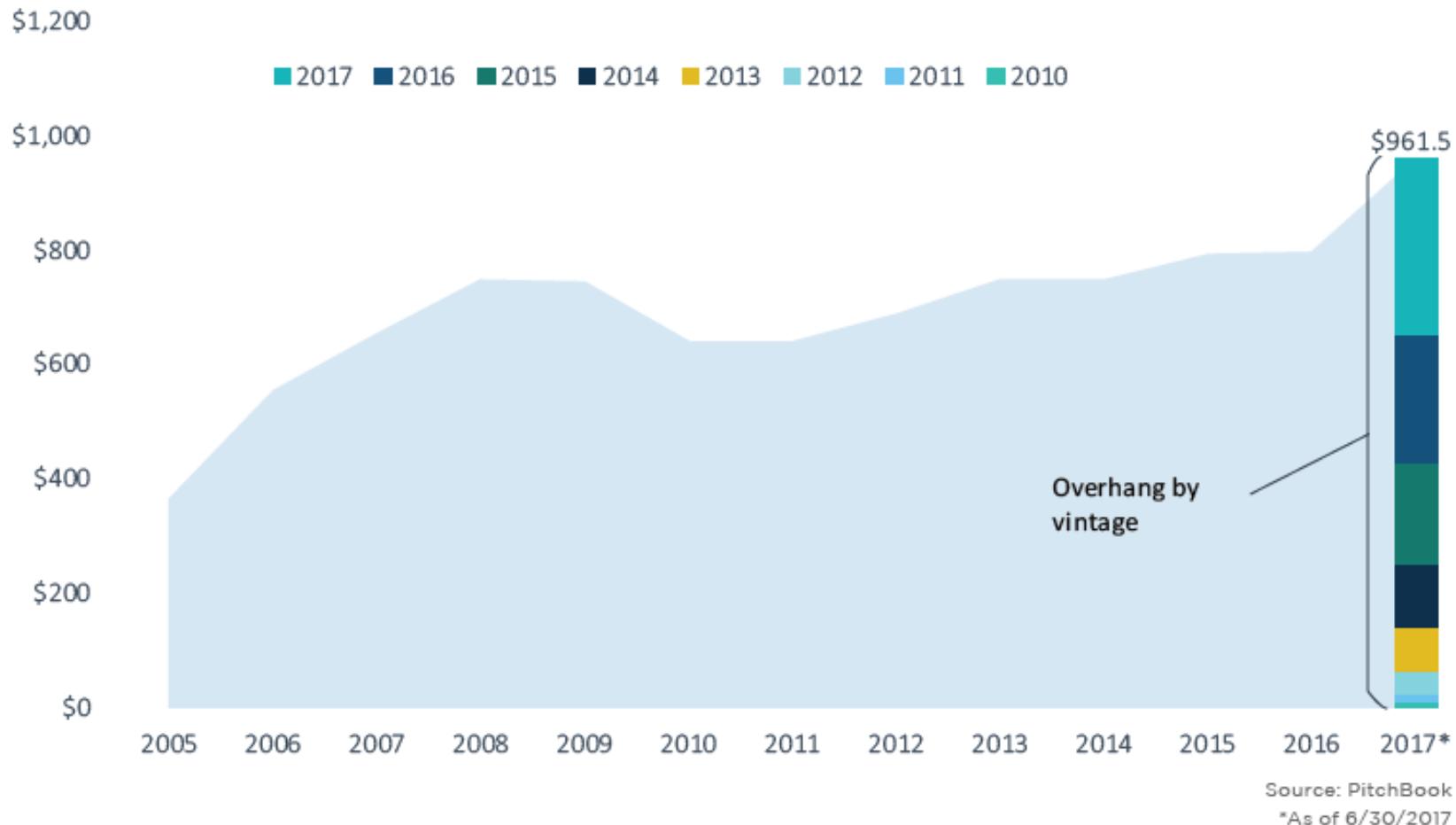
Source: Dealogic

## Deal environment – dry powder

- PE firms have record levels of cash waiting to be deployed (“dry powder”)
- Pressure to put capital to work in high valuation environment
  1. Deploy but overpay -> low returns -> unhappy investors
  2. You don’t deploy -> low returns -> unhappy investors
- The older the vintage, the more pressure to deploy – 14.5% of dry powder predates 2014

# Deal environment – dry powder

PE dry powder



# The largest PE funds

THE PEI TOP 10

2018 Rank	2017 Rank	Firm	Headquarters	PEI 300 Five-Year Fundraising Total (\$m)
1	▲ 3	The Carlyle Group	Washington DC	60,034.54
2	▼ 1	Blackstone	New York	52,344.39
3	▼ 2	KKR	New York	51,839.40
4	▲ 7	Apollo Global Management	New York	45,372.19
5	▲ 10	CVC Capital Partners	London	42,389.99
6	▼ 5	Warburg Pincus	New York	33,312.91
7	▲ 31	EQT	Stockholm	28,733.01
8	▲ 9	Neuberger Berman Group	New York	27,645.69
9	▲ 23	Silver Lake	Menlo Park	26,086.50
10	▼ 4	TPG	Fort Worth	25,946.00

Source: PEI

# Investment banking role in PE

- Investment banks provide advisory services and facilitate access to debt capital

2016's most active global I-banks

Firm name	Deal count
Houlihan Lokey	85
Rothschild & Co	75
Lincoln International	68
The Goldman Sachs Group	65
Lazard	60
RBC Capital Markets	58
William Blair & Company	52
Morgan Stanley	49
Robert W. Baird & Co.	49
Evercore Group	42
Evercore Group	42
Harris Williams & Co.	42
Moelis & Company	39
Deutsche Bank	38
Citigroup	37
Credit Suisse	36
Piper Jaffray	35
Jefferies Group	35
J.P. Morgan	35

Source: PitchBook

# **Tax savings has been a motivating factor in LBOs**

- Until recently, interest has been fully tax deductible
- Means cost of debt subsidized in the form of lower taxes:
  - At a 25% tax rate, a company's nominal borrowing cost of 5% is actually only 3.75% ( $5\% \times 75\%$ )
  - All else equal, this increases equity IRRs
  - Understand that the higher 1) the leverage, 2) the tax rate, 3) the interest rate, the more pronounced this benefit...
- Since the 1980s, all 3 of these decreased, muting the tax savings

# Tax reform reduces leverage benefits at a certain point

- 2017 US tax reform lowered tax rates across the board<sup>1</sup>
  - Helps returns, but actually lowers benefit of leverage
- 2017 US tax reform placed limits on the amount of interest expense deductible for tax purposes
  - Lowers benefit of leverage (at certain inflection point)

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## Maximum deductible interest expense formula<sup>2</sup>

Interest income + 30% x EBITDA	Between 12/31/17 and 1/1/22
Interest income + 30% x EBIT	After 1/1/22

<sup>1</sup> 2017 tax reform lowered the tax rate on C-corporations to 21% from 35%, while the tax rate on pass-throughs (partnerships/S corps/LLCs) lowered to 33.4% from 39.6%. No changes to state and local tax.

<sup>2</sup>This limitation only applies to firms with revenue > \$25 million. Real estate firms can opt out, but don't get bonus depreciation benefits (more on this shortly). Regulated entities (public utilities, etc.) are exempt.

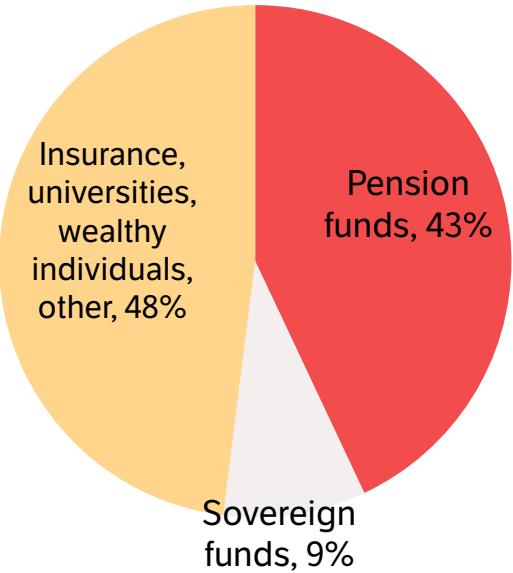
# **Tax reform reduces leverage benefits at a certain point**

- However, this is offset somewhat by several factors:
  1. The lower overall tax rate (21% instead of 35%)
  2. More accelerated tax “bonus depreciation”
  3. Non deductible interest carries forward indefinitely so companies can use it in the future as they de-lever and their EBIT/EBITDA grows relative to interest
- Despite leverage restrictions, tax reform viewed as net positive for PE returns and raise value of portfolio companies 3-17%<sup>1</sup>

<sup>1</sup> Hamilton Lane study. <https://www.wsj.com/articles/private-equity-expected-to-benefit-from-tax-overhaul-1516802400>

# How PE funds work

## LIMITED PARTNERS (LPs)



LPs commit capital and pay an annual management fee of 1.5-2.0% of committed capital

## PRIVATE EQUITY FIRM

### General partners (GPs)

- GPs manage each fund
- 15-20% of the fund's returns are kept by the GPs (carried interest, or "promote")
- The remaining 80% are distributed to LPs
- Separately, GPs also charge portfolio companies fees (usually shared with LPs)

## 2014 vintage fund

## 2010 vintage fund

## 2007 vintage fund

## 2005 vintage fund

## 2014 vintage fund

(limited partnership)

Investment 1

Investment 2

Investment 3

Investment 4

Investment 5

Investment 6

Investment 7

Investment 8

Investment 9

Investment 10

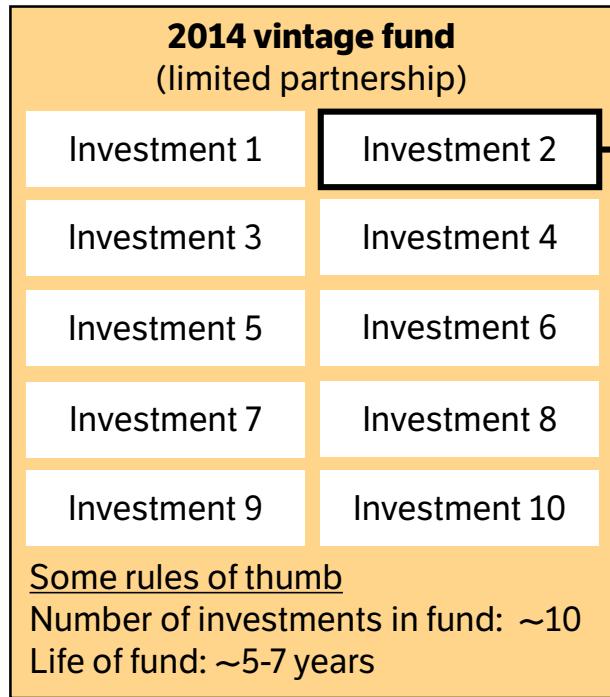
### Some rules of thumb

Number of investments in fund: ~10

Life of fund: ~5-7 years

Fund returns come in the form of exits via IPO, sales, dividend recaps and fees

# How PE funds work



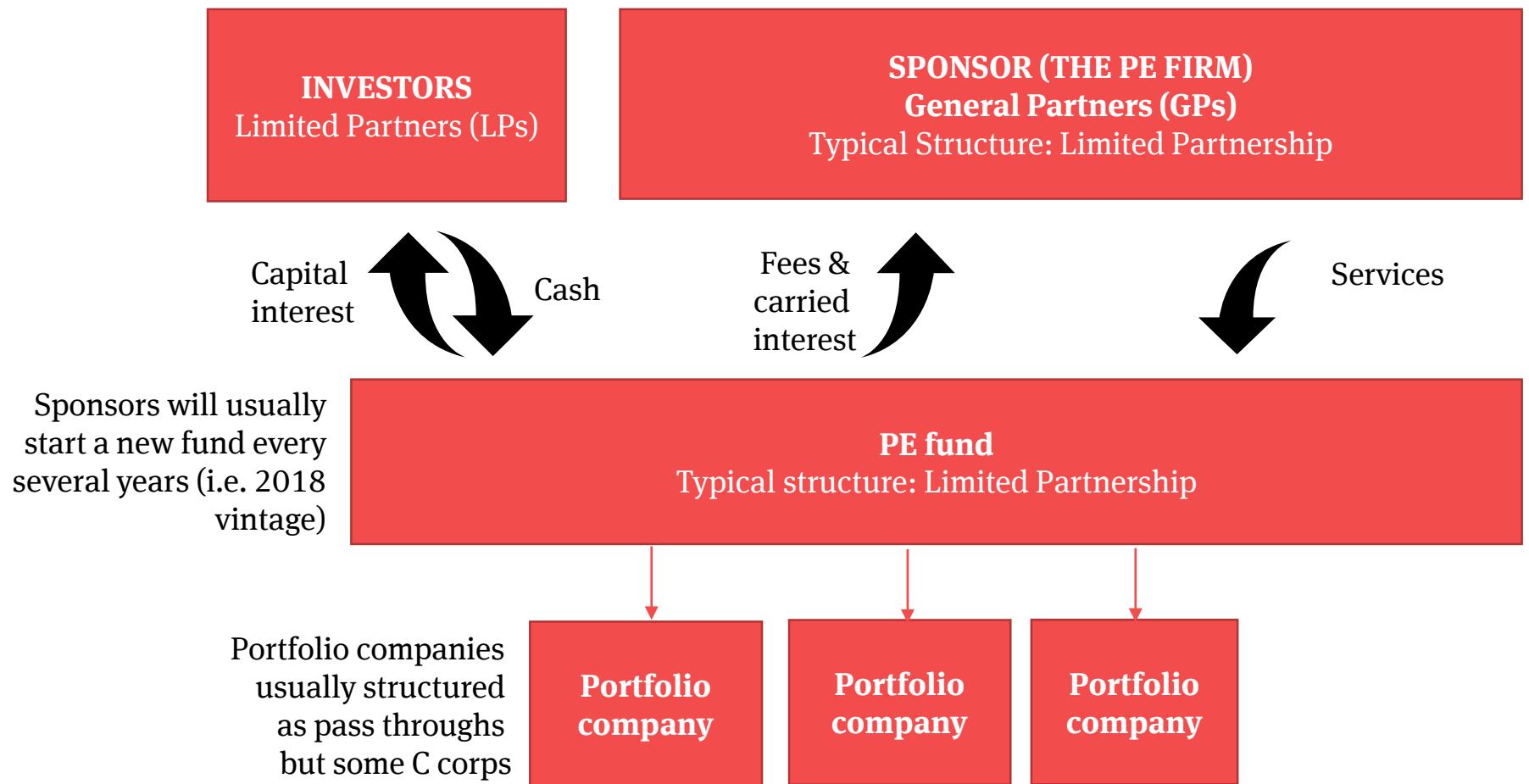
## Investments

Portfolio companies are acquired using the equity raised in the fund along with debt raised from various lenders. Modeling these investments is at the heart of our course.

# **Corporate structure of PE post TCJA**

- One issue that's emerged post TCJA is the corporate structure of PE firms and their portfolio companies.
  - **PE firms:** Predominantly structured as a limited partnership (LPs)
  - **PE funds:** Also structured as LPs
  - **PE portfolio companies:** Usually structured as partnerships “pass throughs” but some C-corporations

# PE corporate structure



# Change of tax rates – corporations vs partnerships

- Lower tax for **C corps** and **partnerships (LLCs, LPs other “pass throughs”)**
- C corps continue to face higher relative tax BUT gap has narrowed:

	C Corp		Partnerships		
	Current	Pre-TCJA	Current (w/QBI)	Current (w/o QBI)	Pre-TCJA
Corporate level	21.0%	35.0%	NA	NA	NA
Shareholder level (capital gains)	<u>23.8%<sup>1</sup></u>	<u>23.8%</u>	<u>33.4%<sup>3</sup></u>	<u>40.8%<sup>3</sup></u>	<u>39.6%</u>
<b>Total</b>	<b>39.8%<sup>2</sup></b>	<b>50.5%</b>	<b>33.4%</b>	<b>40.8%</b>	39.6%

<sup>1</sup> The 23.8% is comprised of 20.0% top bracket tax on dividends + 3.8% in Net Investment Income tax.

<sup>2</sup> Calculated as 21.0% + (1-0.21) x (0.238) = 39.8%. Pre TCJA, the rate was 35.0% + (1-0.35) x (0.238)=50.47%

<sup>3</sup> Pass through entities are taxed at the individual level at the ordinary income rate (37.0% at highest bracket) but the new law allows a 20% deduction for qualified business income. Assuming full advantage of the 20% deduction, the total tax rate on pass through entities amounts to 37% (1-20%) = 29.6%, plus an additional 3.8% Net Investment Income tax for a total of 33.4%

## C-corp structure more favorable post TCJA

- C corporation tax remains less attractive in absolute terms but more attractive relative to pre-TCJA<sup>1</sup>.
- In addition, not all pass throughs qualify for the 20% QBI deduction; there are several exceptions and the deduction is subject to limits and phase outs
  - Without the 20% QBI deduction, c-corporation tax rates become actually lower than partnerships (39.8% vs 40.8%)

<sup>1</sup> An additional benefit of C Corp status is that state tax isn't deductible for pass-through but is for C corps. While this hasn't historically been enough to move some companies to switch to C corp status, this benefit becomes a consideration as the gap narrows

# **Structure of portfolio companies post TCJA**

- Despite the narrowing, for most companies it is expected that single level tax benefits will continue to outweigh C-corporation benefits and not lead to a massive shift towards C-corporation structure
- In addition, should tax rates go back up down the road, it is much harder to go back to pass through once decision is made
- Must consult qualified tax professional with specifics

# Structure of funds and LPs post TCJA

- Most C-Corp conversions will likely occur on portfolio company level but largest sponsors may convert as well
  - Public PE firms trade at discount because of restrictions on their listing in indices and additional regulations due to their complicated structure
    - Ares and KKR announced conversion to C Corporation
    - Shares of both companies rose on the news
    - Others sitting pat but may follow
  - Conversion would kill “carried interest,” which is only available for partnerships...

# Holding period raised from 1 to 3 years for sponsors

- **PE economics refresher:** PE sponsors get paid a 1-2% management fee on assets, plus ~ 20% of the returns on investments (carried interest / “carry”)
- **Tax in PE:** Carried interest is (controversially) taxed at long term capital gains tax (20.0%) instead of ordinary income (was 39.6% now 33.4%)<sup>1</sup>
- **What's happened:** Holding period required to qualify for the 20% LT CGTR rose from 1 year to 3 years for “applicable” carry - applies to virtually all financial sponsors and investment funds<sup>2</sup>

<sup>1</sup> Management fees taxed at ordinary income but a common practice is sponsors “waiving” fees in exchange for higher carry effectively transfer all sponsor income to income taxed at capital gains rate. Read more: [https://www.duanemorris.com/site/static/management\\_fee\\_waivers.pdf](https://www.duanemorris.com/site/static/management_fee_waivers.pdf)

<sup>2</sup> <https://www.mwe.com/en/thought-leadership/publications/2018/01/impact-tax-reform-private-equity-ma-transactions>

## **Holding period raised from 1 to 3 years for sponsors**

- 3 year holding period doesn't impact equity portfolio company executives; only GPs
- GPs will likely pursue strategies that prevent the resetting of holding periods when making add-on acquisitions

# GP and LP dynamics

- LPs generally have no approval rights over investments
- Capital committed by LPs is not drawn immediately but rather as needed; it is legally binding
- When GPs make an investment, they'll make a “capital call” drawing down from LPs on a pro rata basis
- When GPs need more equity capital for a deal, they allow LP to make additional contributions (“co-invest”) without being charged carried interest
- GPs also commit capital, but usually just 1-5% of fund

# Distribution waterfall

1. Return of investor capital (including fees paid) gets priority in distributions
2. Investors also usually receive a preferred cumulative return “hurdle rate” (~8% annually)<sup>1</sup> prior to manager
3. Manager usually gets priority “catch-up” until he has received 20% of those amounts distributed under the preferred return tranche and current tranche.<sup>2</sup>
4. Manager and investors split the remaining profits 20%/80%

<sup>1</sup> Typically ranges from 7-10%

<sup>2</sup> For example, if there are \$200m in profits left after the \$100m in preferred returns distributions, managers will get priority on \$25 (calc:  $\$100/80\% - \$100$ ) of the remaining \$200m, followed by a 80/20% investor/manager split on the \$175m.

# Whole fund vs. deal-by-deal distribution model

- As investments are sold by the fund, there are two ways funds calculate distributions:
  - Whole-fund model: manager doesn't get carry until investors get capital and preferred return
  - Deal-by-deal model: Distributions calculated on a deal by deal basis, which means carry can precede full investor capital return

## Clawbacks

Generally, deal-by-deal accelerates payments to managers *but does not increase the amount managers receive*. This is because clawback provisions ensure investors reclaim carry when aggregate distributions are insufficient for capital & preferred returns. Clawbacks usually apply to carry but not mgmt. fees.

# Distribution waterfall exercise

## PE WATERFALL ("whole fund structure")

Fund details		Fee structure				
Investor capital contribution	10,000.0	Carried interest (carry or promote):			20.0%	
Preferred return (8%/yr)		Management fees (annual)			2.0%	
Duration of fund (years)	5.0	Fees paid by investors to manager				
		Worst case	Weak case	Base case	Strong case	Best case
Gross proceeds from sales of investments		11,000	16,000	21,000	26,000	31,000
Capital invested		10,000	10,000	10,000	10,000	10,000
<b>Total fund profits</b>	<b>1,000</b>	<b>6,000</b>	<b>11,000</b>	<b>16,000</b>	<b>21,000</b>	
1. Return of capital and mgmt. fees to investors (\$)						
2. Preferred return to investors (\$)						
<b>Remaining distribution (\$)</b>						
3. Manager catch-up						
<b>Remaining distribution (\$)</b>						
Return to manager (\$)						
Return to investors (\$)						
<b>Total distributions to investors (\$)</b>						
% of gross proceeds						
Cash-on-cash return to investors						
Investor IRR						
<b>Total distributions to manager (\$)</b>						
% of gross proceeds						
% of profits						
Manager total return (inc. fees)						

**Manager usually gets priority**  
**"catch-up"** until he/she has received 20% of those amounts distributed under the preferred return tranche and current tranche. For example, if there are \$200m in profits left after the \$100m in preferred returns distributions, managers will get priority on \$25 (calc: \$100/80% - \$100) of the remaining \$200m, followed by a 80/20% investor/manager split on the \$175m.

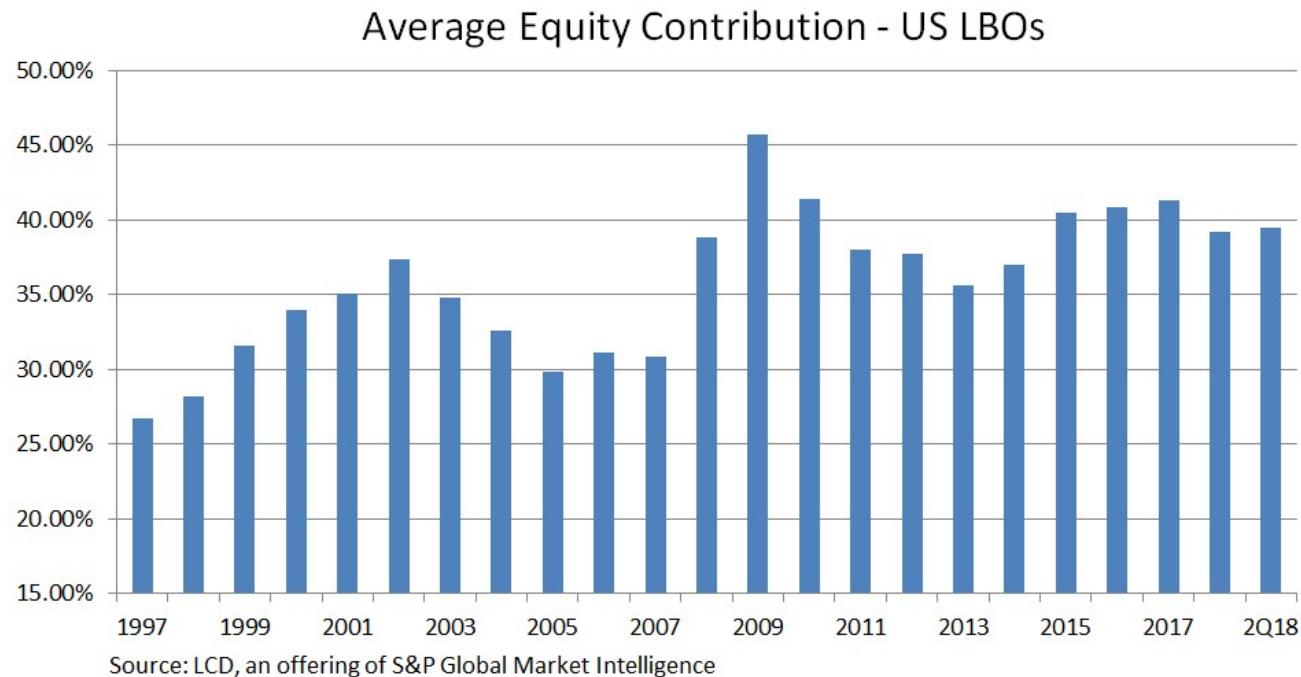
# Distribution waterfall exercise

## PE WATERFALL ("whole fund structure")

<b>Fund details</b>		<b>Fee structure</b>				
Investor capital contribution	10,000.0		Carried interest (carry or promote):	20.0%		
Preferred return (8%/yr)	4,693.3		Management fees (annual)	2.0%		
Duration of fund (years)	5.0		Fees paid by investors to manager	1,000.0		
		Worst case	Weak case	Base case	Strong case	Best case
Gross proceeds from sales of investments		11,000	16,000	21,000	26,000	31,000
Capital invested		10,000	10,000	10,000	10,000	10,000
<b>Total fund profits</b>		<b>1,000</b>	<b>6,000</b>	<b>11,000</b>	<b>16,000</b>	<b>21,000</b>
1. Return of capital and mgmt. fees to investors (\$)		11,000.0	11,000.0	11,000.0	11,000.0	11,000.0
2. Preferred return to investors (\$)		0.0	4,693.3	4,693.3	4,693.3	4,693.3
<b>Remaining distribution (\$)</b>		<b>0.0</b>	<b>306.7</b>	<b>5,306.7</b>	<b>10,306.7</b>	<b>15,306.7</b>
3. Manager catch-up		0.0	306.7	1,173.3	1,173.3	1,173.3
<b>Remaining distribution (\$)</b>		<b>0.0</b>	<b>0.0</b>	<b>4,133.4</b>	<b>9,133.4</b>	<b>14,133.4</b>
Return to manager (\$)		0.0	0.0	826.7	1,826.7	2,826.7
Return to investors (\$)		0.0	0.0	3,306.7	7,306.7	11,306.7
<b>Total distributions to investors (\$)</b>		<b>11,000.0</b>	<b>15,693.3</b>	<b>19,000.0</b>	<b>23,000.0</b>	<b>27,000.0</b>
% of gross proceeds		100.0%	98.1%	90.5%	88.5%	87.1%
Cash-on-cash return to investors		1.0x	1.4x	1.7x	2.1x	2.5x
Investor IRR		0.0%	7.4%	11.6%	15.9%	19.7%
<b>Total distributions to manager (\$)</b>		<b>0.0</b>	<b>306.7</b>	<b>2,000.0</b>	<b>3,000.0</b>	<b>4,000.0</b>
% of gross proceeds		0.0%	1.9%	9.5%	11.5%	12.9%
% of profits		NM	6.1%	20.0%	20.0%	20.0%
Manager total return (inc. fees)		1,000.0	1,306.7	3,000.0	4,000.0	5,000.0

# Capital structure

- LBO capital structure is cyclical, but has also seen a structural shift from equity/debt ratios of 20% / 80% in the 1980s to around 40% / 60% more recently



# Capital structure - equity

- **Sponsors:** Represent the largest source of LBO equity
- **Rollover:** In some cases, oldco mgmt roll over their existing equity into the newco and even contribute new capital alongside the sponsors<sup>1</sup>
- **Option pool:** In addition, since most LBOs have oldco mgmt stay on to run the newco, sponsors reserve anywhere from 3%-20% of total equity for them
- **Warrants:** Certain lenders may receive equity as a sweetener for providing financing (mezzanine lenders)

**Michael Dell's equity rollover**  
 In the \$24b Dell LBO, Michael Dell rolled over \$3.6b of equity and contributed an extra \$750m of fresh cash

<sup>1</sup> Management rollover has historically ranged from 2 to 5% of the total equity in LBO

# **Capital structure - debt**

- The amount of debt that can be raised depends on:
  1. Size/stability of cash flows
  2. Preference for defensive, less-cyclical firms
  3. Reputation of sponsor and lending environment
- Key ratios
  - Debt as % of enterprise value
  - Leverage Ratio: (Debt/EBITDA)
  - Coverage Ratio: EBITDA/Cash Interest

# Capital structure - debt

- Because of high leverage, LBO debt is “speculative-grade”
  - BB/Ba or below

Aggregate Metrics by Rating Category

	EBITA / Average Assets	Operating Margin	EBITA Margin	EBITA / Interest Expense	(FFO + InExp) / IntExp
Aaa	20.9%	22.0%	25.1%	28.9	25.4
Aa	12.5%	15.4%	16.2%	16.7	16.6
A	12.1%	14.7%	15.5%	9.3	10.3
Baa	9.8%	13.5%	15.0%	5.5	6.9
Ba	8.7%	11.5%	12.6%	3.3	4.5
B	7.1%	9.2%	10.6%	1.7	2.7
Caa-C	3.8%	4.1%	5.7%	0.5	1.4

	Debt / EBITDA	DEBT / Book Capitalization	FFO / Debt	Retained Cash Flow / Net Debt	Capex / Depreciation	Revenue Volatility
Aaa	0.6	19.3%	133.5%	129.7%	1.4	11.2
Aa	1.8	35.3%	48.7%	33.1%	1.4	7.3
A	2.0	40.8%	37.9%	29.5%	1.4	10.8
Baa	2.7	45.6%	27.5%	24.1%	1.3	13.5
Ba	3.5	52.2%	19.7%	19.3%	1.3	16.6
B	5.1	67.2%	11.9%	11.0%	1.1	17.7
Caa-C	7.3	85.3%	4.0%	3.6%	0.7	14.8

Source: Moody's Financial Metrics™

# LBO debt

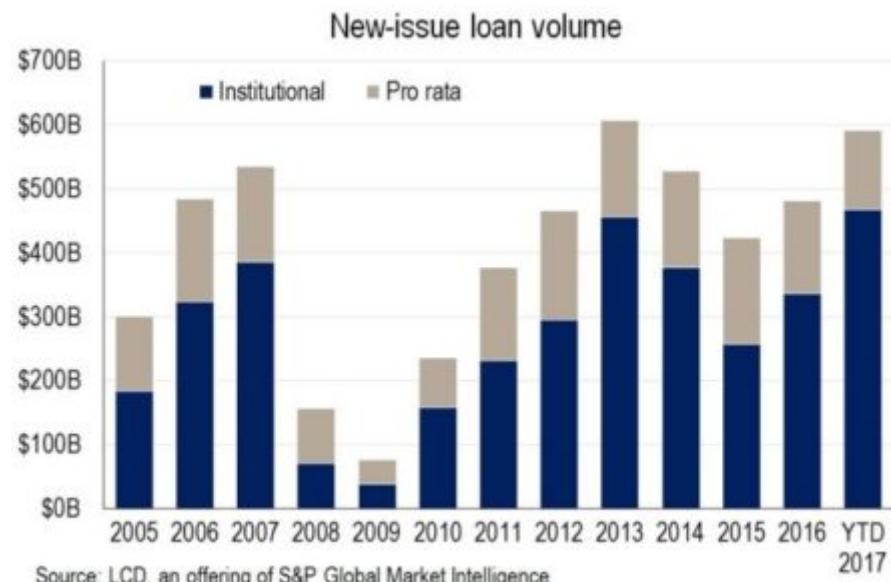
- Leveraged loans: Revolver & term loans A/B/C/D
- Bonds: High-yield (“speculative-grade” or “junk”) bonds
- Mezzanine finance

## Loans vs. bonds – confusing terminology

Leveraged loans (also called “bank debt” or “senior debt.”) It makes up the majority of LBO debt and is syndicated to banks (“pro rata”) and institutional investors. Loans represent senior tranche(s) in LBOs.

It is quite distinct from the HY bonds (“bonds” or “junior debt”) which make up the lower tranches. Unlike bonds, it is usually:

- Secured (1<sup>st</sup> or 2<sup>nd</sup> lien)
- Priced as a floating rate (LIBOR + spread)
- Structured with shorter maturity
- More restrictive (covenants)
- Free of SEC registration



# Leveraged loans – term loans and revolver

- Make up the majority and senior tranches of LBO debt, syndicated to banks (“pro rata”) or institutional investors

## Loans in Carlyle's \$4.15b Ortho-clinical LBO

Ortho Clinical Diagnostics

- Senior secured institutional loan split between a \$2.175b, 7-year TLB and a \$350m, 5-year revolver. Priced at L+375, with a 1% LIBOR floor
- Ortho also issued \$1.3b/6.625% notes (bonds) due 2022

## Loans in Blackstone's \$5.4b Gates LBO



- Includes \$2.49b and €200m term loans, respectively (7-year terms), a \$125m cash-flow revolver, and a \$325m asset-based revolver (5-year terms). The term loans will be covenant-lite
- \$1.04b/6% and €200m/5.75% senior notes (bonds) will also be used to fund the LBO

# Leveraged loans – term loans and revolver

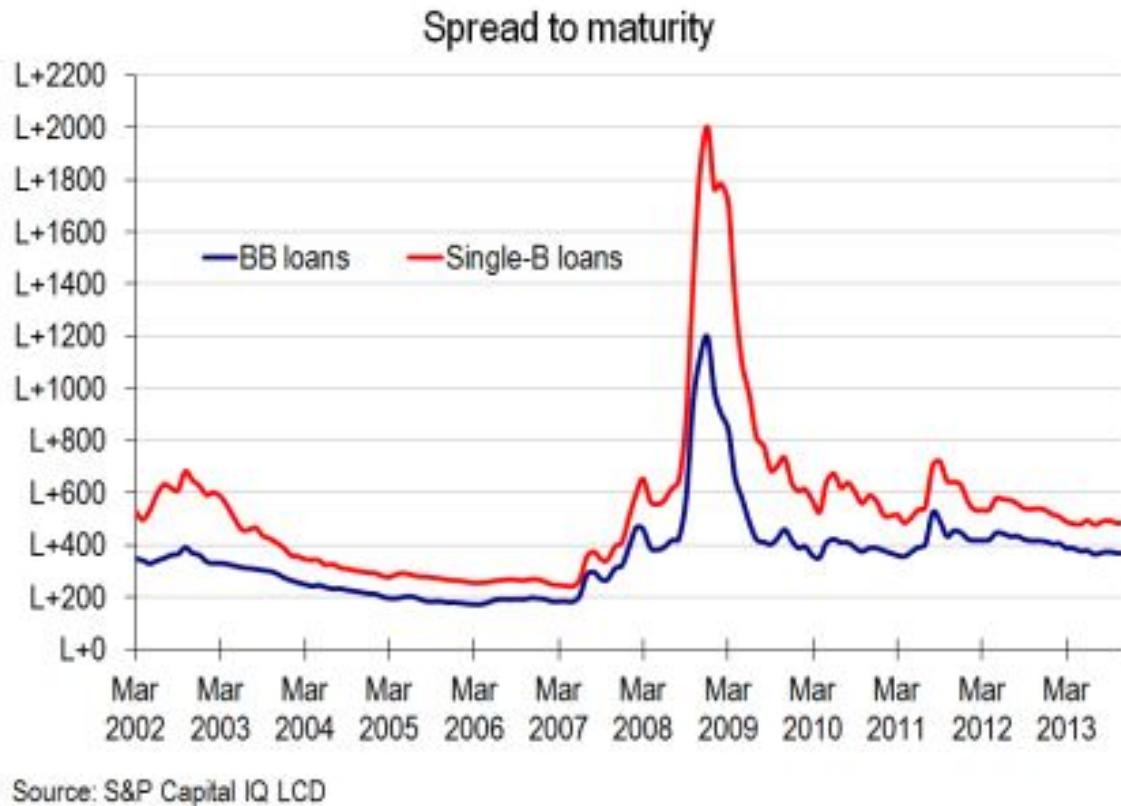
- Priced at LIBOR<sup>1,2</sup> + spread
- Scheduled principal amortization (TLs)
- No call protection (borrower can repay anytime)
- Most common LBO package is an institutional (nonbank) term loan B/C/D and a revolver

<sup>1</sup> LIBOR is slowly going away. It's being replaced by SOFR. <https://www.bloomberg.com/view/articles/2018-04-11/banks-will-miss-libor-when-it-s-gone>.

<sup>2</sup> Libor floors are safeguards put in by lenders that ensure the baseline rate can't go below some minimum, usually 1%. This lender protection was common since the financial crisis through 2016 are less common now as there's less concern about low LIBOR

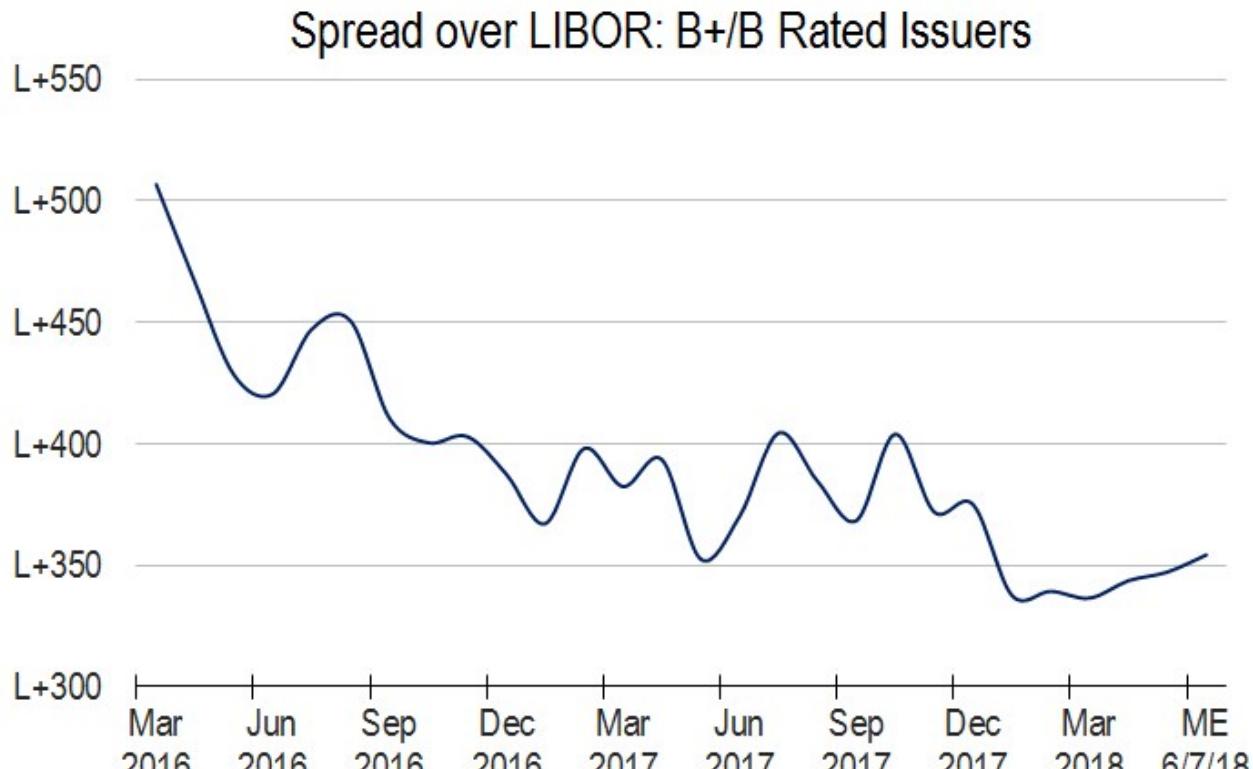
# Leveraged loans – term loans and revolver

- **Big picture:** Spreads have come down to nearly pre-crisis levels...



# Leveraged loans – term loans and revolver

...but spread increases from recent lows are likely



Source: LCD, an offering of S&P Global Market Intelligence

## Leveraged loans – revolver

- Usually packaged alongside a term loan to the same investor base, secured with 1st lien, priced at LIBOR + spread. Availability can be tied to borrowing-base lending formulas (usually a % of collateral, most often A/R and inventory)
- Can be initially undrawn, partially drawn, or fully drawn:
  - Example: Dell LBO included a \$2.0b asset-backed revolver, \$750 drawn initially, with a 5yr term
  - Usually carries the same term and similar pricing as the term loan

# Leveraged loans – term loan A/B/C/D

- Term loan A (“TLA”) are provided by banks, usually is a 1st lien loan, with a 5 year term, packaged with a revolver
- Term loans “B”/“C”/“D” refers to loans syndicated to institutional investors like hedge funds, CLOs, mutual funds, and insurance companies (and some banks)
- B/C/Ds are larger and more prevalent in LBOs than TLAs, often packaged alongside revolver with no TLA
- B/C/Ds have looser covenants, 5-8 year terms, may be 2nd or 1st lien and require less principal amort.

The “B” or “C” or “D” designation is more indicative of the investor base than priority. (i.e. TLc can have higher priority than TLb).

## Leveraged loans – 2nd lien debt

- 2nd lien term loans have been primarily syndicated to CLO funds and other institutional investors
- Unlike 1st lien term loans, typically carry no amortization, and have a longer maturity than 1st lien debt
- Smaller part of the LBO cap structure post-crisis, as this tranche is where investors got in trouble during the crisis

# Leveraged loans financing recent deals

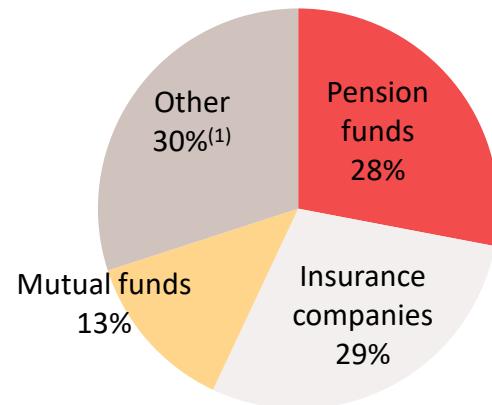
Issuer	Loan Amount (\$B)	Sponsor	Industry	Date
BMC Software	3.3	Kohlberg, Kravis & Roberts	Computers & Electronics	6/19/2018
Lifescan	1.475	Platinum Equity	Healthcare	5/8/2018
Edelman Financial	1.455	Hellman & Friedman	Services & Leasing	6/14/2018
TDC A/S	1.418	Macquarie	Telecom	5/24/2018
Blackhawk Network	1.35	Silver Lake Partners	Computers & Electronics	5/9/2018
SRS Distribution	1.3	Leonard Green	Building Materials	5/8/2018
Heartland Dental Care	1.15	Kohlberg, Kravis & Roberts	Healthcare	4/5/2018
Hearthsde Food Solutions	1.145	Charlesbank Capital	Food & Beverage	5/7/2018
Mitel Networks	1.12	Searchlight Capital	Telecom Equipment	6/26/2018
Springs Window Fashions	0.86	AEA Investors	Home Furnishings	5/4/2018
PowerSchool Group	0.775	Onex	Computers & Electronics	5/31/2018
Laird	0.75	Advent International	Computers & Electronics	4/19/2018
Renaissance Learning	0.73	Francisco Partners	Computers & Electronics	5/9/2018
Yak Mat	0.68	Platinum Equity	Forest Product	5/30/2018
Jordan Health Services	0.66	Kelso	Healthcare	4/26/2018

Source: <http://www.leveragedloan.com/primer/>

# High yield bonds (HYB)

- HYD (credit rating BBB- or worse) enables sponsors to increase leverage to levels that bank debt (leveraged loans) won't support

Who are the investors in high yield debt?



Source: S&P CIO, LCD

<sup>(1)</sup>'Other' includes ETFs, HNW individuals, commercial banks, hedge funds

# High yield bonds (HYB)

- Fixed coupon paid semiannually, maturity 7-10 years, no principal pay-down until maturity (bullet)

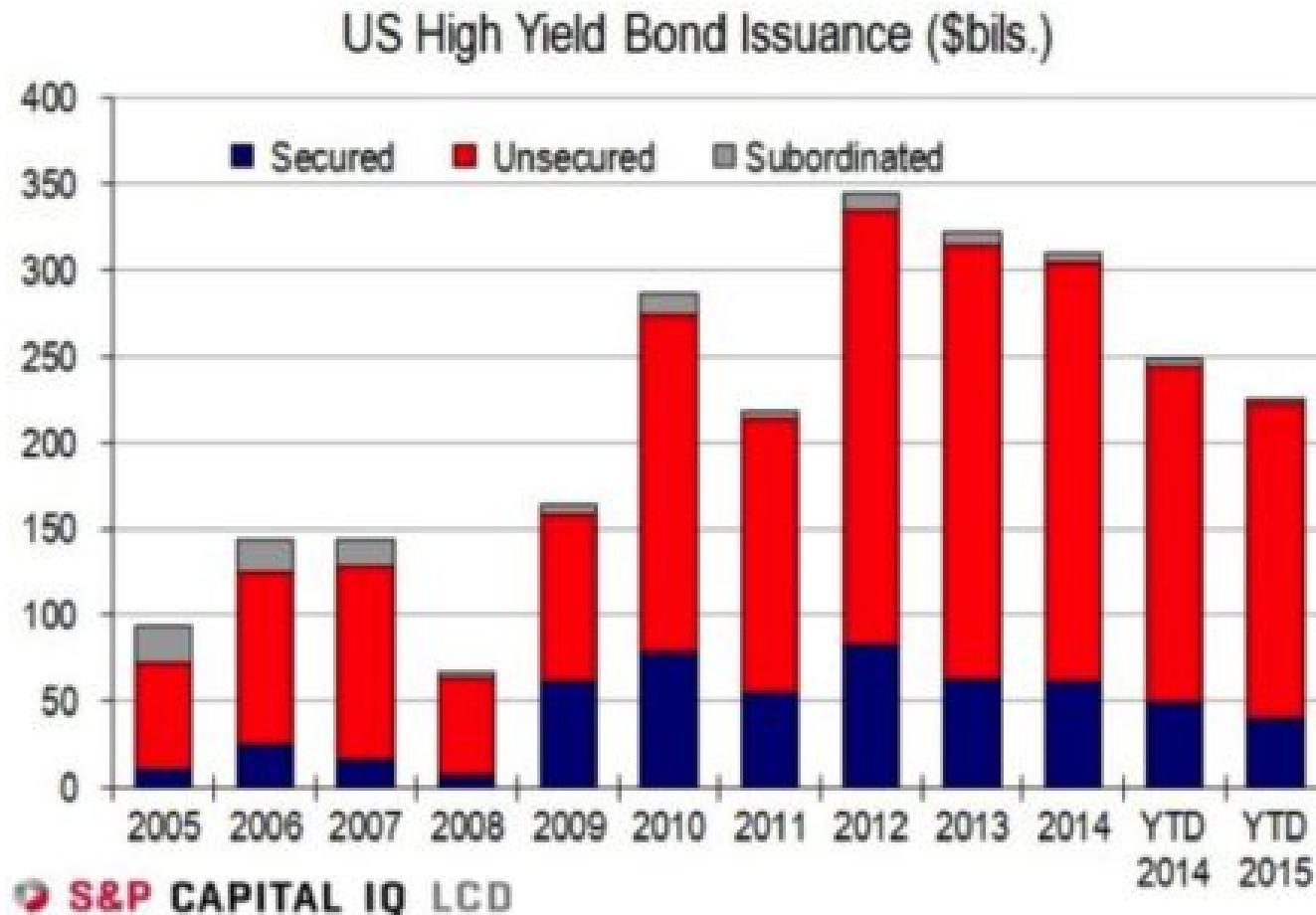
## Bonds issued in Bain's \$6.7b LBO of BMC



- BMC's 2013 LBO included a \$1.625b bond, 8.125% coupon, priced at par, matures July 15, 2021 . Not callable for first 3 years.
- Senior tranches were comprised of a \$2.88b (L+4%, 1% LIBOR floor) and a \$670m (L+4%) secured 7 year term loan and a \$350m unfunded revolver (L+4%).

# High yield bonds (HYB)

- HYBs are usually (but not always) unsecured



# High yield bonds (HYB) – other features

- Usually not registered with the SEC (Rule 144A) to get to market quickly (registration can take more than 3 months)
- Usually exchanged for registered debt once SEC paperwork is done, increasing liquidity
- Call protections & call premiums

## Call protection & premium – example

- 10% notes due in 8 years, with 3 years of call protection (noted as NC-3).
- After year 3, bonds are callable at 105% of par, then at 103.3, 101.7 and par in the following years, representing a par-plus-5.0% coupon, 3.3%, 1.7% and par

# Covenants

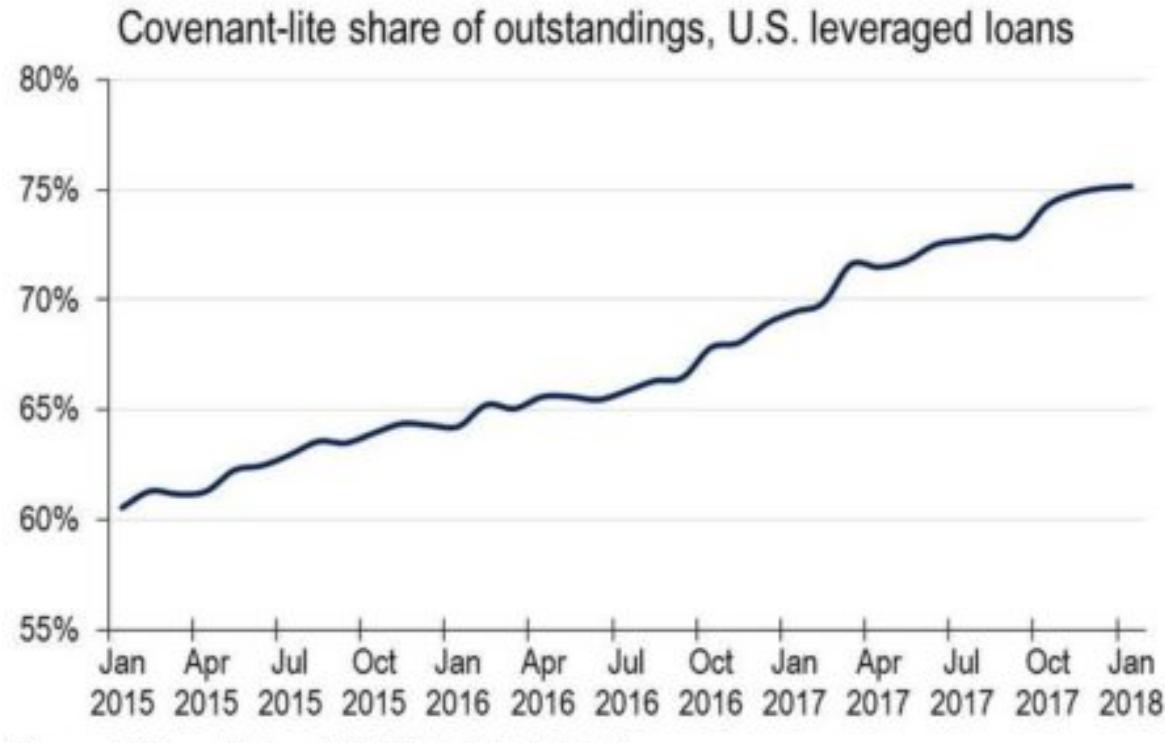
- As part of a loan, lenders will impose restrictions on borrowers (covenants):
  - Financial covenants – borrower must be in compliance with certain key ratios
    - Debt/EBITDA < 6x
    - EBITDA/Interest > 3x
  - Other covenants – Spend limits beyond pre-specified carve-outs (“basket”), borrower pledge to include lender in any subsequent grant of a security interest (negative pledge), and forced call in the event of a downgrade

# Covenants

- Maintenance covenants – Required compliance with covenants every quarter, no matter what
- Incurrence covenants – Required compliance with covenants only when taking a specified action (issuing new debt, dividends, or making an acquisition)
- Senior debt traditionally includes restrictive maintenance covenants, whereas bonds only include incurrence covenants

# Covenants

- Increasingly, leveraged loans are “covenant-lite” and include only incurrence covenants, amounting to 75% of new loan issuances by 2018



Source: LCD, an offering of S&P Global Market Intelligence

# Mezzanine

- Financing that sits between debt and equity
- Hedge funds and mezz funds are the primary investors, often tailoring the investment to meet the specific needs of the deal

## Mezzanine financing structures

- Convertible debt
- Bond with warrants
- Convertible preferred stock
- Preferred stock with warrants
- Unsecured with few/any covenants

## Pricing components

Target blended return of 15-20%

- 1) Cash interest / dividends
- 2) PIK interest / dividends
- 3) Warrants (“equity kicker”)

## Caution on terminology

Mezzanine is sometimes more loosely defined as financing between *secured debt* and equity, which would place HYBs into the category. For consistency, we will exclusively refer to mezzanine as financing specifically below HYBs

## **Capital structure – bridge loans**

- Bridge loans provide interim financing should the LBO debt not be available by the closing of the deal
- Investment banks typically provide the bridge loan commitment

# Leveraged finance cheat sheet

	Leveraged loans		Bonds				
Debt Type	Revolver	Term Loan A (Bank Debt); Term Loan B/C/D (Institutional)	Senior secured	Senior unsecured	Subordinated		
Lender	Institutional investors & banks		Institutional investors				
Coupon	Floating, i.e. LIBOR + 300 bps		Fixed, i.e. 8.00% coupon paid semi-annual				
Cash/PIK interest	Cash interest			Cash or PIK			
Interest rate	Lowest	<----->	Highest				
Principal repayment schedule	None	Some principal amortization	Bullet at end of term				
Secured/unsecured	Secured (1st and 2nd liens)			Unsecured			
Priority in bankruptcy	Highest	<----->	Lowest				
Term	3-5 years	5-7 years	5-10 years				
Covenants	Mostly incurrence ("covenant lite"); Some maintenance (strictest)		Incurrence				
Call protection	No		Yes				

Source: <https://www.wallstreetprep.com/knowledge/ultimate-guide-to-debt-leveraged-finance/>

# Expanded LBO analysis on a cocktail napkin

## The offer

- In February 2013, Michael Dell and Silver Lake (“the sponsors”) offered Dell shareholders \$13.88 per share
- There were 1.69b shares outstanding
- Dell Inc. has \$1.4b in debt, which would be refinanced in the deal
- LTM EBITDA was \$3.5b

## The financing

- The sponsors were able to secure \$11.5b in debt financing (see next page)
- There was also \$7.7b in cash on Dell Inc.’s B/S. They planned to use all of it to help fund the deal
- Michael Dell will rollover \$3.4b in equity and \$0.8b in new cash
- Silver Lake will fund the remainder

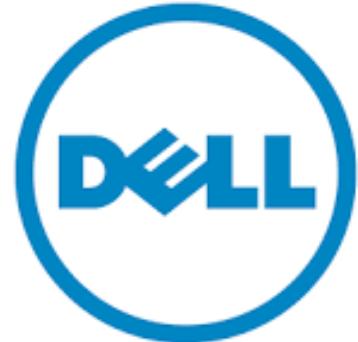
## The exit assumptions

- Exit is assumed 5 years post-LBO
- Assume the same LTM EBITDA at exit as the current EBITDA
- Assume exit at the same EV/LTM EBITDA multiple as the current multiple
- Assume debt is fully paid down
- Assume no cash on the B/S

# Full sources of funds in Dell's \$25b LBO

## Loans

- \$1.5b TLC @ L + 300 w/1% LIBOR floor, covenant-lite, 5yr
- \$2.0b asset-backed revolver (\$750 drawn initially), 5yr
- \$4.0b TLB @ L+375 w/1% LIBOR floor, covenant-lite, 6.5yr



## High yield bonds

- \$2b 1<sup>st</sup> lien bonds, 7yr
- \$1.25b 2<sup>nd</sup> lien bonds, 8yr

**Microsoft loan:** \$2b sub. note at 7.25% (~50% PIK), 10yr

**Rollover Equity:** \$3.4b from Michael Dell

**Equity:** \$0.8b from Michael Dell, remainder from Silver Lake

**Existing cash on B/S:** \$7.7b

# Expanded LBO analysis on a cocktail napkin

## Use of funds

Buyout of equity	
Offer price/share	13.88
Diluted shares outstanding	1.69
Oldco debt refinanced	1.4
<b>Total uses</b>	

## Source of funds

Loans	
Revolver	0.75
Term Loan C	1.50
Term Loan B	4.00
High yield bonds	
First-lien note	2.00
Second-lien note	1.25
Microsoft loan	2.00
Equity	<u>Equity %</u>
Rollover Michael Dell	3.40
New equity Michael Dell	0.80
New equity Silver Lake	
Existing cash on B/S	7.70
<b>Total sources of funds</b>	

## Current valuation

EBITDA	3.50
EV	
EV/EBITDA	

## Exit (5 yrs later)

EV/EBITDA	
EBITDA	
Enterprise value	
Debt	0.0
Cash	0.0
Equity value	<u>Equity %</u>
Michael Dell	
Other sponsors	

## Equity IRR

Michael Dell	
Other sponsors	

# Expanded LBO analysis on a cocktail napkin

## Use of funds

Buyout of equity	23.46
Offer price/share	13.88
Diluted shares outstanding	1.69
Oldco debt refinanced	1.4
<b>Total uses</b>	<b>24.86</b>

## Source of funds

Loans	
Revolver	0.75
Term Loan C	1.50
Term Loan B	4.00
High yield bonds	
First-lien note	2.00
Second-lien note	1.25
Microsoft loan	2.00
Equity	<u>Equity %</u>
Rollover Michael Dell	60%
New equity Michael Dell	14%
New equity Silver Lake	26%
Existing cash on B/S	7.70
<b>Total sources of funds</b>	<b>24.86</b>

## Current valuation

EBITDA	3.50
EV	17.16
EV/EBITDA	4.9x

## Exit (5 yrs later)

EV/EBITDA	4.9x
EBITDA	3.50
Enterprise value	17.16
Debt	0.0
Cash	0.0
Equity value	<u>Equity %</u>
Michael Dell	74%
Other sponsors	26%
	17.16
	12.7
	4.4

## Equity IRR

Michael Dell	24.8%
Other sponsors	24.8%



WALL STREET PREP TRAINING MANUAL

# Modeling a Real LBO: The Buyout of BMC

# Introducing the case study: The LBO of BMC

On May 6, 2013 BMC announces the LBO...

News articles follow...

## BMC Software Signs Definitive Agreement to be Acquired for \$46.25 per Share in Cash

Transaction with private investor group valued at \$6.9 Billion

BOSTON, NEW YORK CITY, SAN FRANCISCO, SINGAPORE and HOUSTON – May 6, 2013 – BMC Software ([NASDAQ: BMC](#))



### Bain, Golden Gate in \$6.9 Billion Deal to Acquire BMC Software

Monday, 6 May 2013 | 9:24 AM ET

**BMC Software** said on Monday it agreed to be acquired by a private equity group led by Bain Capital and Golden Gate Capital Corp for about \$6.9 billion.

The offer price of \$46.25 a share represents a scant premium to BMC's Friday close of \$45.42. The company's stock has risen 4.5 percent since March 21, when Reuters reported that private-equity groups were looking to buy the business software maker.

The deal would be one of the largest leveraged buyouts so far this year, after Michael Dell teamed up with private-equity firm Silver Lake Partners to take **Dell** private for \$24.4 billion. Silver Lake accounts for only a quarter of the equity in that deal.

Buoyant debt markets have encouraged private equity to consider larger deals, which in turn call for larger equity checks and make buyout firms more open to teaming up.

Houston, Texas-based BMC Software shares ended trading at \$45.42 on Friday. It competes with **Oracle**, **SAP**, **CA**, and **Compuware** and has been under pressure from Paul Singer's activist hedge fund Elliott Associates to sell itself since last year.

BMC currently trades in line with its peers at around 11.5 times projected earnings, according to Thomson Reuters data.

Elliott, a seasoned investor in the software sector, has a 9.7-percent stake in the company and has argued that BMC's management was neglecting a huge opportunity to expand into Internet-based business software, a market dominated by the likes of **Salesforce.com**.

# Introducing the case study: The LBO of BMC

The initial financing structure is announced in July...

July 26, 2013 at 11:47am

## BMC Software readies \$4.55B leveraged loan backing LBO by Bain



A Credit Suisse-led arranger group has scheduled bank meetings for next week to roll out the approximately \$4.55 billion covenant-lite loan backing the \$6.9 billion leveraged buyout of **BMC Software**, according to sources. A meeting is scheduled for 2:00 p.m. EDT on Tuesday, July 30 in New York and for 2:00 p.m.

BST on Monday, July 29 in London.

The senior secured component of the financing is structured as a \$3.2 billion, seven-year term loan; a €750 million, or roughly \$1 billion, seven-year term loan; and a \$350 million, five-year revolving credit.

Ahead of the bank meeting, the dollar term loan is talked at L+400, with a 1% floor, offered at 99. Guidance on the euro loan is E+450, with a 1% floor, offered at 99. Both tranches would include six months of 101 soft call protection.

At the proposed guidance, the dollar loan offers a yield to maturity of 5.28%, while the euro loan would yield about 5.8%.

Credit Suisse, RBC Capital Markets, Barclays, Goldman Sachs, Deutsche Bank, Citigroup, Mizuho, Jefferies, BMO Capital Markets, HSBC, and UBS are arranging the financing. Commitments will be due on Thursday, Aug. 8.

The deal backs the purchase of BMC by Bain Capital and Golden Gate Capital, together with GIC [Special Investments](#) and Insight Venture Partners. As reported, the financing commitment for the LBO also provides for a \$1.68 billion unsecured bridge loan, which is expected to be replaced with high-yield bonds.

Cash equity will total \$1.25 billion, and the issuer will also utilize \$1.4 billion of cash on hand.

# Introducing the case study: The LBO of BMC

Putting it all together...

DEAL FINANCING	\$ in millions	Notes
7 YR Term Loan, L+400	3,200	
7 YR Term Loan, E+450	€750 (~1,000)	Benchmark is Euribor, LIBOR's Europe version used only for €-based deals
Total Senior Tranches	<b>4,200</b>	Financing includes \$350m USD, 5 year revolver, assume undrawn initially
High Yield Bonds	1,680	
Sponsor equity	1,250	Reported to be \$1.25b but will ultimately be finalized based on total funds needed in transaction
BMC Cash to be used in transaction	1,400	
<b>Implied total sources of funds</b>	<b>8,530</b>	\$8.53b is implied based on preliminary financing and sponsor equity assumptions. Note that this is more than the \$6.9b reported offer value because in addition to paying BMC shareholders, enough funds need to be raised to also refinance pre-existing BMC debt and pay for deal fees

# Introducing the case study: The LBO of BMC

**By August, final terms on the bond are finalized...**



## LCD News Today

Wednesday, August 7, 2013

### Primary high-yield market

BMC Software wrapped the bond portion of its LBO financing after upsizing the deal to \$1.625 billion, from \$1.38 billion, at the expense of an accompanying term loan. Recall it was originally cast as a dual-currency offering but demand for the then \$1.05 billion tranche outpaced a €250 million mirror issue, and the latter was dropped. Price talk for the eight-year (non-call three) senior notes went out at 8-8.25%, representing the wide side of preliminary whispers, and final pricing was at the midpoint, yielding 8.125%.

The deal backs the purchase of BMC by Bain Capital and Golden Gate Capital, together with GIC Special Investments and Insight Venture Partners. Issuance comes under Rule 144A for life, with issue ratings of B-/Caa1. Bookrunners are Credit Suisse, RBC, Barclays, Deutsche Bank, Goldman Sachs, Citi, Jefferies, and Mizuho.

**...While \$ amount of bank debt is significantly reduced.  
Possible reasons include any combination of:**

1. Sponsors putting in more equity than originally thought
2. Using more BMC cash than originally thought
3. Needing less total funds than expected

BloombergBusiness News Markets Insights Video

## BMC Software Reduces LBO Loans to \$3.5 Billion From \$4.2 Billion

Don't Miss Out —

Follow us on:

by  
Christine Idzellis

4:47 PM EDT  
August 7, 2013



Aug. 7 (Bloomberg) -- BMC Software Inc. reduced the amount of two loans it's seeking for its leveraged buyout led by Bain Capital LLC to about \$3.5 billion from \$4.2 billion, according to a person with knowledge of the transaction.

The provider of software for corporate computer networks cut a \$3.2 billion term loan to \$2.88 billion and a 750 million-euro (\$1 billion) portion was reduced to 500 million euros, said the person, who asked not to be identified because terms of the deal are private.

# Introducing the case study: The LBO of BMC

Here is a table of what we know so far about the sources of funds in the BMC LBO

DEAL FINANCING	\$ in millions	Notes
7 YR Term Loan, L+400	2,880	An additional \$335m USD term loan ends up being placed later at same terms. We'll ignore this financing for now.
7 YR Term Loan, E+450	€500 (~670)	Benchmark is Euribor, LIBOR's Europe version used only for €-based deals
Total Senior Tranches	<b>3,550</b>	Financing includes a \$350m USD, 5 year revolver, assume undrawn initially
8.125% High Yield Bonds	1,625	
Sponsor equity	TBD	Originally estimated to be \$1.25b but will be higher because debt financing is lower and total sources needed will prove lower than originally expected. This will be somewhat offset by the new \$335m term loan).
BMC Cash to be used in transaction	1,400	No reported changes; assume this stays the same as in the announcement
<b>Total sources of funds</b>	<b>TBD</b>	Will be confirmed when we determine deal fees and how much pre-existing BMC debt needs to be refinanced

# Let's Model

The following modeling steps cover:

- General inputs
- Initial valuation of BMC
- Forecasting the Income Statement
- Forecasting all non-debt items in the Balance Sheet
- Forecasting the Cash Flows

**Open the following files to begin:**

- Workfile1.xlsx
- BMC Merger Proxy.pdf
- BMC Pre LBO 10-K.pdf
- BMC Q4 2013 PR.pdf

## Before you start modeling, let's do a few things together...

A	B	C	D
1			
2			
3			
4			
5	<b>GENERAL INPUTS</b>		
6	Company name	BMC	
7	Ticker (if applicable)	BMC	
8	Current share price (if applicable)	45.42	
9	Latest closing share price date (if applicable)	5/6/2013	
10	Circuit breaker:	OFF	
11			
12	<b>SELECT FINANCIAL DATA / ASSUMPTIONS</b>		
13	EBITDA (LTM)	880.0	
14	Gross Debt (input as a -)	(1,306)	
15	Cash	1,582	
16	Minimum cash desired	180	
17	EV / LTM EBITDA multiple at exit	7.3x	
18			

### Review the general inputs

- LBO date is the announcement date
- For price pre-announcement we included a historical prices tab in the template file
- Insert ON/OFF circuit breaker toggle using data validation

**EBITDA:** We inputted an EBITDA placeholder of \$880m for now (we'll do the actual calculation shortly)

**We got gross debt & cash (latest 10K)**  
Cash includes ST & LT investments

**Minimum cash assumption**  
We assume that newco will never dip below \$180m in cash; remainder of the \$1,582m in cash will be used to fund deal

### Exit multiple assumption

We assume that newco will be able to exit the business at 7.3x. As we'll see in a bit, this is the current multiple – which is the “best practice” for an exit multiple assumption. This assumption is hugely consequential to the returns the model spits out and we'll see how using different exit assumptions alters the model later on.

## Review the initial valuation section

In an LBO, there are usually two distinct ways that valuation is discussed:

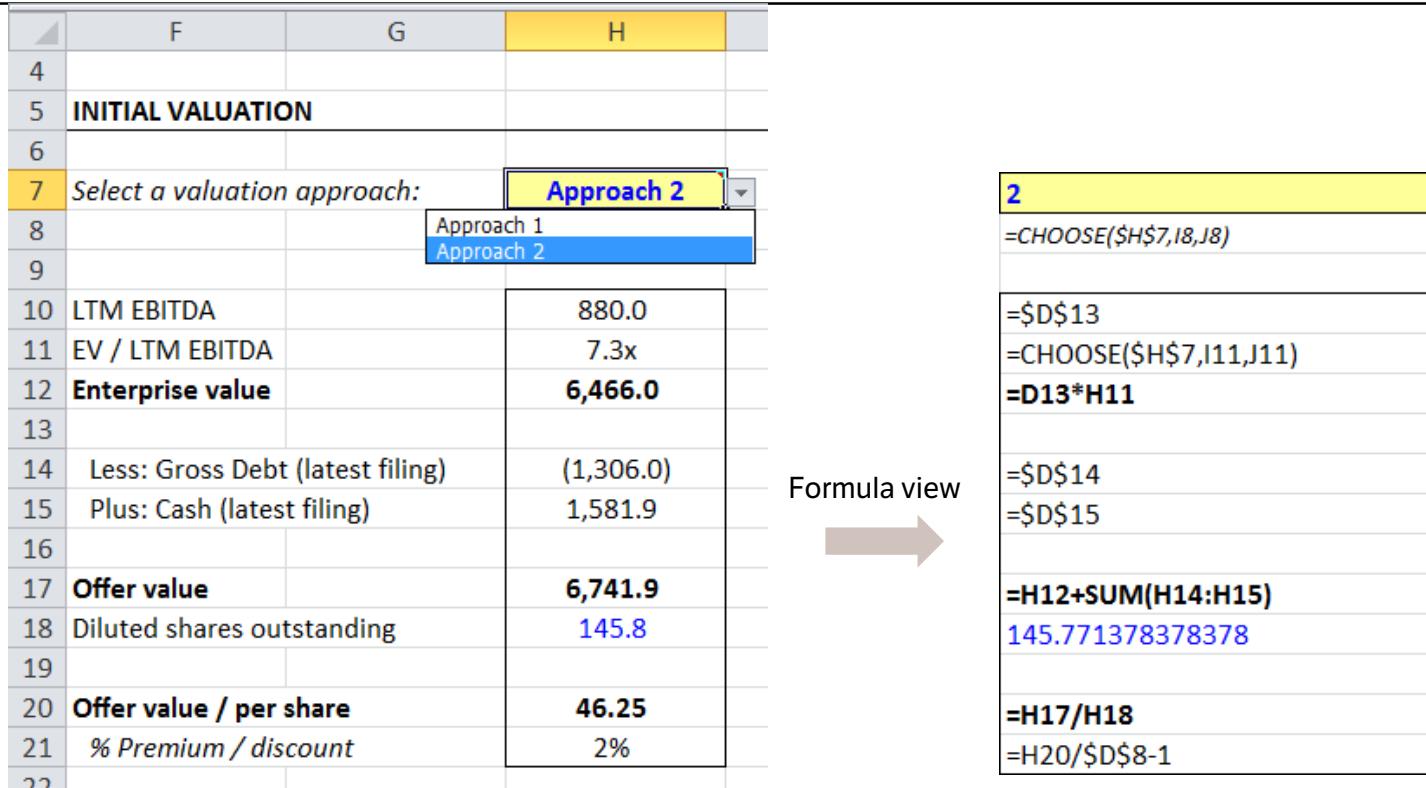
- Approach 1: Explicit EBITDA multiple – typical for **private targets**
- Approach 2: Explicit offer price per share – typical for **public targets**

A	B	C	D	E	F	G	H	I	J
1									
2	<b>Leveraged Buyout Model for BMC</b>								
3	\$ mm except per share								
4									
5	<b>GENERAL INPUTS</b>				<b>INITIAL VALUATION</b>				
6	Company name	BMC			Select a valuation approach:	<b>Approach 2</b>	<b>Approach 1</b>	<b>Approach 2</b>	
7	Ticker (if applicable)	BMC			Explicit offer/share	Explicit EBITDA	Explicit offer/share	Explicit EBITDA	
8	Current share price (if applicable)	45.42				880.0	880.0	880.0	
9	Latest closing share price date (if applicable)	5/6/2013			7.3x	8.0x	7.3x	7.3x	
10	Circuit breaker:	OFF			Enterprise value	6,466.0	7,040.0	6,466.0	
11	<b>Explaining the valuation approaches</b>				Less: Gross Debt (latest filing)	(1,306.0)	(1,306.0)	(1,306.0)	
12	• Since the BMC offer price/share was explicitly defined, we'll input the offer price per BMC's press release and work our way up to the implied 7.3x EBITDA multiple (also why we inputted 7.3x as the exit assumption multiple earlier).				Plus: Cash (latest filing)	1,581.9	1,581.9	1,581.9	
13	• Had we been modeling a private company, it's likely that the explicitly defined value measure during negotiations was EBITDA multiple. For example, an 8x EBITDA would imply an offer value of \$50.19 per share				Offer value	6,741.9	7,315.9	6,741.9	
14					Diluted shares outstanding	145.8	145.8	145.8	
15					Offer value / per share	46.25	50.19	46.25	
16					% Premium / discount	2%	10%	2%	

**Shares: Hard coded as 145.8m shares (we'll do the full analysis shortly)**

**We want our model to handle both private and public targets so we made a toggle that allows user to choose their preferred approach**

Once you have the toggle, there are several ways to then bring in the relevant data into column H. We inserted a CHOOSE function in either H11 or H20 as illustrated



	F	G	H
4			
5	<b>INITIAL VALUATION</b>		
6			
7	Select a valuation approach:	Approach 2	
8		Approach 1	
9		Approach 2	
10	LTM EBITDA	880.0	
11	EV / LTM EBITDA	7.3x	
12	<b>Enterprise value</b>	<b>6,466.0</b>	
13			
14	Less: Gross Debt (latest filing)	(1,306.0)	
15	Plus: Cash (latest filing)	1,581.9	
16			
17	<b>Offer value</b>	<b>6,741.9</b>	
18	Diluted shares outstanding	145.8	
19			
20	<b>Offer value / per share</b>	<b>46.25</b>	
21	% Premium / discount	2%	
22			

2	=CHOOSE(\$H\$7,I8,J8)
	=\$D\$13
	=CHOOSE(\$H\$7,I11,J11)
	=D13*H11
	=\$D\$14
	=\$D\$15
	=H12+SUM(H14:H15)
	145.771378378378
	=H17/H18
	=H20/\$D\$8-1

Formula view

**Next, we turn to calculating diluted shares more rigorously...**

## Calculating diluted shares for BMC

Input basic share count as of latest date prior to LBO announcement

A	B	C	D	E
1				
2	<b>Diluted shares for BMC</b>			
3	\$ mm except per share			
4				
5	Offer price			\$46.25
6				
7	Basic shares outstanding (latest filing)			144.0
8	In-the-money exercisable options			
9	Total proceeds (\$mm)			
10	Total shares repurchased (mm)			
11	Net dilutive options			
12	Dilutive impact of shares from other securities			
13				
14	<b>Net diluted shares outstanding</b>			
15				
16	<b>Options outstanding</b>			
17		<u>Out. shares</u>		
18	Tranche 1			
19	Tranche 2			

**Basic shares - always front cover of latest 10K/10Q**

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

**FORM 10-K**

As of May 6, 2013, there were 143,973,000 outstanding shares of Common Stock, par value \$.01, of the registrant.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the registrant's Proxy Statement relating to its 2013 Annual Stockholders Meeting, to be filed subsequently, are incorporated by reference into Part III.

# Dilutive securities in M&A/LBO

- **Options:** Assume options automatically vest: Add outstanding & exercisable options, using the treasury stock method to calculate net dilution
- **Restricted stock/RSUs:** Assume auto-vest so add all outstanding shares/units (remember no exercise price = no proceeds for restricted stock)

## More on unvested options & restricted stock in acquisitions

Note that there is not an automatic vest in all deals, but even in the absence of an automatic vest, most practitioners include the unvested in-the-money options/restricted stock.

The logic for inclusion is that they are expected to vest at some point and should thus be factored in as a real claim on the equity.

### Contradiction?

While a similar argument can be made for including unvested options and restricted stock when calculating diluted shares in trading comps and standalone DCF analyses, practitioners rarely include unvested options in the diluted share count in those cases (for better or worse).



Some argue for including the unvested options and restricted stock but applying an illiquidity discount and while this is logical, it is rarely in practice.

### Dilutive securities

For a full review of how to treat dilutive securities including RSUs, restricted stock, warrants and convertible securities, please see **WSP's Trading Comps Online Lessons 12-18**

## Calculating diluted shares for BMC

BMC has both stock options and restricted stock units

Find the options RSU disclosures in the 10K p.80-81 (p.116-117 in pdf)

A summary of our share-based compensation activity for fiscal 2013 follows:

<u>Stock Options</u>	<u>Shares (In millions)</u>	<u>Weighted-Average Exercise Price</u>	<u>Weighted-Average Remaining Contractual Term (In years)</u>	<u>Aggregate Intrinsic Value (In millions)</u>
Outstanding at March 31, 2012	5.5	\$ 30	2.1	\$ 57.1
Exercised	(2.2)	\$ 30		
Outstanding at March 31, 2013	3.3	\$ 31	1.4	\$ 52.6
Vested and exercisable at March 31, 2013	3.3	\$ 31	1.4	\$ 52.5

<u>Nonvested Stock Units</u>	<u>Shares (In millions)</u>	<u>Weighted-Average Grant Date Fair Value</u>	<u>Weighted-Average Remaining Vesting Term (In years)</u>
Outstanding at March 31, 2012	7.4	\$ 41	1.2
Granted	4.2	\$ 42	
Vested	(3.3)	\$ 40	
Cancelled or expired	(0.2)	\$ 41	
Outstanding at March 31, 2013	7.4	\$ 42	1.2

Our outstanding and exercisable options at March 31, 2013 were (shares in millions):

<u>Range of Exercise Prices</u>	<u>Shares</u>	<u>Weighted-Average Exercise Price</u>	<u>Weighted-Average Remaining Contractual Life</u>
\$0.00 – 17.39	0.2	\$ 15	1.0
\$17.40 – 19.93	0.7	\$ 18	1.4
\$19.94 – 25.41	0.1	\$ 22	2.2
\$25.42 – 31.69	0.3	\$ 28	3.5
\$31.70 – 32.15	0.3	\$ 32	0.2
\$32.16 – 36.84	0.4	\$ 36	1.4
\$36.85 – 39.30	1.3	\$ 39	1.1

**RSUs** We will include all outstanding RSUs in the diluted share count

**Stock options** BMC gives us a tranche by tranche breakout of outstanding and exercisable options

# Dilutive securities

A	B	C	D	E
2	<b>Diluted shares for BMC</b>			
3	\$ mm except per share			
4				
5	Offer price			\$46.25
6				
7	Basic shares outstanding (latest filing)		144.0	
8	In-the-money exercisable options		3.3	
9	Total proceeds (\$mm)		100.9	
10	Total shares repurchased (mm)		2.2	
11	Net dilutive options		1.1	
12	Dilutive impact of shares from other securities		7.4	
13				
14	<b>Net diluted shares outstanding</b>		152.5	
15				
16	<b>Options outstanding</b>			
17		<u>Out. shares</u>	<u>Exercise price</u>	<u>In-the-\$-shares</u>
18	Tranche 1	0.2	15	0.2
19	Tranche 2	0.7	18	0.7
20	Tranche 3	0.1	22	0.1
21	Tranche 4	0.3	28	0.3
22	Tranche 5	0.3	32	0.3
23	Tranche 6	0.4	36	0.4
24	Tranche 7	1.3	39	1.3
25	Tranche 8			0
26	Tranche 9			0
27	Tranche 10			0
28				3.3

This is the correct diluted share count (do not link it back to the model yet – we'll do that at the end)

Hard-code offer price (as opposed to linking from the model tab) to avoid circularity when an explicit EBITDA (Approach 1) is selected

Formula view

=143.973  
=E28  
=SUMPRODUCT(D18:D27,E18:E27)  
=E9/E5  
=E8-E10  
7.4  
=E7+E11+E12

- Insert tranche by tranche options and corresponding exercise price
- Use a formula in column E to only include tranches where exercise price is less than the offer price

## Build the Sources & Uses of Funds table

- The primary **uses of funds** are 1) buying out oldco equity, 2) refinancing oldco debt and 3) fees
- The primary **sources of funds** are 1) debt raised to finance the LBO, 2) Oldco excess cash, 3) Sponsor equity, 4) Pref. stock and 5) Management rollover

15	Cash		1,582	
16	Minimum cash desired		180	
17	EV / LTM EBITDA multiple at exit		7.3x	
18				
19	<b>USES OF FUNDS</b>			
20	Buyout of equity			
21	Refinancing of oldco debt			
22	Fees (transaction & financing)			
23	<b>Total Uses</b>		0.0	
24				
25	<b>SOURCES OF FUNDS</b>			
26				
27	Excess cash			
28	Revolver			
29	Term Loan A		3.27x	
30	Term Loan B		0.76x	
31	Senior Note		1.85x	
32	Sub Note		0.00x	
33	Preferred stock		0.00x	
34	Mgmt rollover		0.00x	
35	Sponsor equity		5.88x	
36	<b>Total Sources</b>		0.0	

Reference offer value from cell H17

Assume all oldco debt will be refinanced

Leave blank for now

**Back into sources of funds based on the EBITDA turns assumptions** As an LBO is being negotiated, lenders and borrowers alike often think of debt not in absolute terms but relative to EBITDA. Excess cash is defined as total cash less minimum cash desired, while sponsor equity is a plug (total uses – all other sources)

**Understanding management rollover:** When oldco management stays on to help run the newco, they can opt to roll over their equity into newco. This reduces the amount of cash needed to do the deal, so the oldco equity rolled over is itself a source of funds.

## Calculate fees using the % fees and term assumptions provided

- % fees were not disclosed so we used “typical” ranges
- Accounting rules require that financing fees be capitalized and amortized over the term of the loan
- This contrasts with the accounting treatment of transaction fees, which are expensed as incurred
- When all fees are calculated link them back to Uses of Funds table

The diagram illustrates the flow of data from the 'USES OF FUNDS' section to the 'SOURCES OF FUNDS' section. An arrow points from the 'Total Uses' cell (row 23, column 3) to the 'Offer value / per share' cell (row 38, column 3). Another arrow points from the same 'Total Uses' cell to the 'FEES' section (row 46, column 3).

19	<b>USES OF FUNDS</b>						
20	Buyout of equity						
21	Refinancing of oldco debt						
22	Fees (transaction & financing)						
23	<b>Total Uses</b>	<b>0.0</b>					
24							
25	<b>SOURCES OF FUNDS</b>						
26		EBITDA turns	\$ investment				
27	Excess cash	0.00x					
28	Revolver	0.00x					
29	Term Loan A	3.27x					
30	Term Loan B	0.76x					
31	Senior Note	1.85x					
32	Sub Note	0.00x					
33	Preferred stock	0.00x					
34	Mgmt rollover	0.00x					
35	Sponsor equity	0.00x					
36	<b>Total Sources</b>	<b>5.88x</b>	<b>0.0</b>				
37							

		Offer value / per share					
		% Premium / discount					
		46.25					
		2%					
			50.19				
			10%				
				46.25			

		% fees	Fee	Term	Fee amort / year
	Financing fees				
	Revolver	1.0%		5 yrs	
	Term Loan A	1.5%		7 yrs	
	Term Loan B	1.5%		7 yrs	
	Senior Note	1.0%		8 yrs	
	Sub Note	0.0%		0 yrs	
	Financing fees		0.0		0.0
		% of offer value	Fee		
	Trans. fees	2.0%			

## Check your work

A	B	C	D	E	F	G	H	I	J	K
19	<b>USES OF FUNDS</b>									
20	Buyout of equity		6,741.9				<b>Offer value / per share</b>	<b>46.25</b>	<b>50.19</b>	<b>46.25</b>
21	Refinancing of oldco debt		1,306.0				<b>% Premium / discount</b>	2%	10%	2%
22	Fees (transaction & financing)		204.3							
23	<b>Total Uses</b>		<b>8,252.2</b>							
24										
25	<b>SOURCES OF FUNDS</b>									
26		EBITDA turns	\$ investment							
27	Excess cash	1.59x	1,401.9				<b>Financing fees</b>			
28	Revolver	0.00x	0.0				Revolver	1.0%	0.0	5 yrs
29	Term Loan A	3.27x	2,877.6				Term Loan A	1.5%	43.2	7 yrs
30	Term Loan B	0.76x	668.8				Term Loan B	1.5%	10.0	7 yrs
31	Senior Note	1.85x	1,628.0				Senior Note	1.0%	16.3	8 yrs
32	Sub Note	0.00x	0.0				Sub Note	0.0%	0.0	0 yrs
33	Preferred stock	0.00x	0.0					<b>69.5</b>		9.6
34	Mgmt rollover	0.00x	0.0							
35	Sponsor equity	1.90x	1,675.9							
36	<b>Total Sources</b>	<b>9.38x</b>	<b>8,252.2</b>							
37										
38										
39										
40										

**Wall Street Prep:** \$1.4 in excess cash used in BMC LBO  
**Wall Street Prep:** Up to \$350m in availability on revolver with 5 year term  
**Wall Street Prep:** Originally \$3.2b senior secured 7 year term loan reduced to \$2.88b

**Wall Street Prep:** Originally \$1b second senior secured tranche, 7 year term loan reduced to 670m

**Wall Street Prep:** Originally \$1.38b high yield bond, matures 2021 increased to \$1.625b.

# What's next

- At this point we have identified several important parameters of the BMC LBO:
  - The deal size, how deal will be funded & how those funds will be used
  - We also estimated fees, and very importantly, made an exit multiple assumption
- If the goal of the LBO model is to determine the IRR to the sponsors and other capital providers, the main thing that remains to be done is to forecast cash flows
  - It's time to dust off the old crystal ball...

## We turn to forecasting the newco financials

- Process similar to forecasting for a stand-alone company, with some key differences related to debt items and the calculation of certain assets and equity

A	B	C	D	E	F	G	H	I	J	K
37										
38	x INCOME STATEMENT									
39	Fiscal year	2011A	2012A	2013A						
40	Fiscal year end date	3/31/11	3/31/12	3/31/13						
41										
42	Revenue	2,065.3	2,172.0	2,201.4						
43	Cost of sales (enter as -)	(485.2)	(568.9)	(592.0)						
44	<b>Gross Profit</b>	<b>1,580.1</b>	<b>1,603.1</b>	<b>1,609.4</b>						
45	Research & development (enter as -)	(181.6)	(165.2)	(174.6)						
46	Selling, general & administrative (enter	(865.7)	(894.0)	(969.4)						
47	<b>Operating profit (EBIT)</b>	<b>532.8</b>	<b>543.9</b>	<b>465.4</b>						
48	Interest income	15.0	10.6	8.3						
49	Interest expense (enter as -)	(19.8)	(23.3)	(47.8)						
50	Other non-operating expense (enter as -	3.3	(1.2)	2.0						
51	<b>Pretax profit</b>	<b>531.3</b>	<b>530.0</b>	<b>427.9</b>						
52	Taxes (enter expense as -)	(75.1)	(129.0)	(96.9)						
53	<b>Net income</b>	<b>456.2</b>	<b>401.0</b>	<b>331.0</b>						
54										
55	EBITDA reconciliation									
56	<b>EBIT (GAAP)</b>	532.8	543.9	465.4						
57	Depreciation and amortization	190.0	224.6	229.0						
58	Stock based compensation	106.5	127.2	147.4						
59	Restructuring and other nonrecurring	14.3	10.8	40.9						
60	<b>EBITDA</b>	<b>843.6</b>	<b>906.5</b>	<b>882.7</b>						
61										
62	Growth rates & margins				Using management projections provided by BMC in Merger Proxy, p.72					Step
63	Revenue growth	NA	5.2%	1.4%	3.5%	5.5%	6.0%	5.0%	4.8%	
64	Gross profit as % of sales	76.5%	73.8%	73.1%	74.5%	75.0%	75.5%	76.0%	76.5%	0.5%
65	R&D margin	8.8%	7.6%	7.9%	8.1%	8.1%	8.1%	8.1%	8.1%	0.0%
66	SG&A margin	41.9%	41.2%	44.0%	42.4%	41.4%	40.4%	39.4%	38.4%	(1.0%)
67	Tax rate	14.1%	24.3%	22.6%	22.6%	22.6%	22.6%	22.6%	22.6%	0.0%
68	SBC as % of all operating expenses	6.9%	7.8%	8.5%	9.3%	9.1%	8.8%	8.6%	8.3%	(0.3%)
69										

**Fill in F42:J60 except for interest expense, interest income and D&A. To help you:**

1. We inputted 3 yrs of historicals from the 10K already
2. We calculated key historical growth rates and margins in C63:E68.
3. In F63:K68, we inputted key forecasting assumptions that you will use to make the forecasts. Turn to the next page for details on these

COUNTIF    =F64+\$K64

A	B	C	D	E	F	G	H	I	J	K
58	Stock based compensation	106.5	127.2	147.4						
59	Restructuring and other nonrecurring	14.3	10.8	40.9						
60	<b>EBITDA</b>	<b>843.6</b>	<b>906.5</b>	<b>882.7</b>						
61										
62	<u>Growth rates &amp; margins</u>									
63	Revenue growth	NA	5.2%	1.4%	3.5%	5.5%	6.0%	5.0%	4.8%	Step
64	Gross profit as % of sales	76.5%	73.8%	73.1%	74.5% =F64+\$K64		75.5%	76.0%	76.5%	0.5%
65	R&D margin	8.8%	7.6%	7.9%	8.1%	8.1%	8.1%	8.1%	8.1%	0.0%
66	SG&A margin	41.9%	41.2%	44.0%	42.4%	41.4%	40.4%	39.4%	38.4%	(1.0%)
67	Tax rate	14.1%	24.3%	22.6%	22.6%	22.6%	22.6%	22.6%	22.6%	0.0%
68	SBC as % of all operating expenses	6.9%	7.8%	8.5%	9.3%	9.1%	8.8%	8.6%	8.3%	(0.3%)
69										
70	<b>We average the last 3 years' margins</b>									
71										

**Wall Street Prep:** BMC projections per Merger Proxy, p.72  
Using management projections provided by BMC in Merger Proxy, p.72  
**Wall Street Prep:** Tried to get close to BMC projections per Merger Proxy, p.72

## Forecasting assumptions

Some assumptions like revenue growth came from management's guidance, provided in the merger proxy (14A).<sup>1</sup>

Other assumptions like gross profit were not explicitly provided by management, so we used historical averages and grew/reduced over time to reflect a directional thesis. Review these formulas carefully.<sup>2</sup>

The following is a summary of the Projections:

Summary of the Projections

(dollars in million)

	Fiscal Year Ending				
	31-Mar-14	31-Mar-15	31-Mar-16	31-Mar-17	31-Mar-18
Revenue	\$ 2,278	\$ 2,403	\$ 2,549	\$ 2,677	\$ 2,804
Operating Income (Non-GAAP) <sup>(1)</sup>	802	869	950	1,011	1,059
Net Income (Non-GAAP) <sup>(1)</sup>	562	613	673	720	758
Share-based Compensation Expense	162	162	156	157	158
Depreciation & Amortization <sup>(2)</sup>	150	136	133	141	146
Cash Flow from Operations	825	885	940	990	1,033
Capital Expenditures	26	28	30	29	31
Capitalized Software Development Costs	116	114	116	128	135

<sup>1</sup>When public co is acquired, it will file a merger proxy, which contains estimates by both analysts and management. However, while an LBO is being negotiated, you won't have the proxy yet, so you'll rely on either 1) guidance privately communicated 2) research (for public companies only) or 3) your own estimates

<sup>2</sup>Notice that even though management provided absolute figures for revenue, we inputted a revenue growth figure that we then use to back into absolute revenue (same for SBC). Although it is a little awkward, we do this by design – to make the model's drivers easy to sensitize if we want to add a different operating scenario later.

## **Check your work. Some notes:**

- Interest expense, interest income and D&A: Must be left blank for now
  - Other operating expense: Historically minimal and unpredictable, so we advise forecasting as 0
  - Restructuring charges: Management guidance was provided; otherwise, we would forecast as 0
  - Net income: Will never get close to management's guidance because guidance doesn't factor in LBO debt (i.e. huge interest expense)

**Working capital (WC)** We inputted historical working capital from the 10K and made several assumptions:

- 2013 ratio of AR as a % sales will persist throughout the forecast
- 2013 ratio of Other current assets as a % of sales will persist throughout the forecast
- 2013 ratio of AP as a % of COGS will persist throughout the forecast
- 2013 ratio of Accrued Expenses & Deferred Revenue as a % of sales will persist throughout the forecast

A	B	C	D	E	F	G	H	I	J
70	<b>WORKING CAPITAL</b>								
71	Fiscal year		2012A	2013A	2014P	2015P	2016P	2017P	2018P
72	Fiscal year end date		3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
73									
74	<b>Accounts receivable, EOP</b>		484.8	443.7					
75	AR as % of sales		22.3%	20.2%	20.2%	20.2%	20.2%	20.2%	20.2%
76	<b>Other current assets, EOP</b>		195.1	213.1					
77	Other current assets as % of sales		9.0%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%
78	<b>Accounts payable, EOP</b>		32.7	42.1					
79	AP as % of COGS		5.7%	7.1%	7.1%	7.1%	7.1%	7.1%	7.1%
80	<b>Accrued expenses &amp; def revenues, EOP</b>		2,313.3	2,301.7					
81	As % of sales		106.5%	104.6%	104.6%	104.6%	104.6%	104.6%	104.6%
82									
83	<b>Net Working Capital</b>		(1,666.1)	(1,687.0)	0.0	0.0	0.0	0.0	0.0
84									
85	<b>LONG LIVED ASSETS</b>								
86	Fiscal year		2012A	2013A	2014P	2015P	2016P	2017P	2018P
87	Fiscal year end date		3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
88									

**WC drivers** In our financial statement modeling course, we address the rationale for forecasting WC items with revenues, COGS, and the various operating drivers. The one item we want to specifically point out is def. revenue – a huge number for BMC. Recall the def. revenue represents cash received for services not yet provided (think software upgrade rights, magazine subscription, etc.). Straight-lining this instead of tying to revenue is a significant error when this line item is material.

**Forecast each WC item based on the appropriate % driver.**  
**Check your work**

A	B	C	D	E	F	G	H	I	J
70	<b>WORKING CAPITAL</b>								
71	Fiscal year		2012A	2013A	2014P	2015P	2016P	2017P	2018P
72	<i>Fiscal year end date</i>		3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
73									
74	<b>Accounts receivable, EOP</b>		<b>484.8</b>	<b>443.7</b>	459.2	<b>484.5</b>	<b>513.6</b>	<b>539.2</b>	<b>565.1</b>
75	AR as % of sales		22.3%	20.2%	20.2%	20.2%	20.2%	20.2%	20.2%
76	<b>Other current assets, EOP</b>		<b>195.1</b>	<b>213.1</b>	<b>220.6</b>	<b>232.7</b>	<b>246.7</b>	<b>259.0</b>	<b>271.4</b>
77	Other current assets as % of sales		9.0%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%
78	<b>Accounts payable, EOP</b>		<b>32.7</b>	<b>42.1</b>	<b>41.4</b>	<b>42.8</b>	<b>44.4</b>	<b>45.7</b>	<b>46.9</b>
79	AP as % of COGS		5.7%	7.1%	7.1%	7.1%	7.1%	7.1%	7.1%
80	<b>Accrued expenses &amp; def revenues, EOP</b>		<b>2,313.3</b>	<b>2,301.7</b>	<b>2,382.3</b>	<b>2,513.3</b>	<b>2,664.1</b>	<b>2,797.3</b>	<b>2,931.6</b>
81	As % of sales		106.5%	104.6%	104.6%	104.6%	104.6%	104.6%	104.6%
82									
83	<i>Net Working Capital</i>		(1,666.1)	(1,687.0)	(1,743.8)	(1,838.9)	(1,948.3)	(2,044.8)	(2,141.9)
84									

You can add an enhancement to working capital schedules by inserting a formula that will automatically calculate the WC item even if an explicit driver isn't provided. For example, if the user does not provide an AR as % of sales forecast in F75:J75, an IF statement in F74:J74 could check for an empty cell row 75 and if it is empty, the formulas will still grow AR with sales as a default.

## Forecasting remaining assets and non-debt liabilities

We have provided you with historical results – we'll explain them over the next several slides before we start forecasting

A	B	C	D	E	F	G	H	I	J
84									
85	<b>LONG LIVED ASSETS</b>								
86	Fiscal year	<b>2011A</b>	<b>2012A</b>	<b>2013A</b>					
87	<i>Fiscal year end date</i>	<i>3/31/11</i>	<i>3/31/12</i>	<i>3/31/13</i>					
88									
89	<b>PP&amp;E</b>								
90	Capital expenditures	<b>22.0</b>	<b>26.5</b>	<b>24.5</b>					
91	Depreciation	<b>(39.1)</b>	<b>(37.8)</b>	<b>(38.7)</b>					
92	<i>Capex as a % of revenue</i>	<i>(1.1%)</i>	<i>(1.2%)</i>	<i>(1.1%)</i>					
93	<i>Depreciation as a % of capex</i>	<i>177.7%</i>	<i>142.6%</i>	<i>158.0%</i>					
94									
95	<b>Software development costs</b>								
96	Purchases	<b>115.8</b>	<b>132.5</b>	<b>129.6</b>					
97	Amortization	<b>(75.7)</b>	<b>(93.6)</b>	<b>(108.5)</b>					
98	<i>Purchases as % of revenue</i>	<i>5.6%</i>	<i>6.1%</i>	<i>5.9%</i>					
99	<i>Amortization as a % of purchases</i>	<i>65.4%</i>	<i>70.6%</i>	<i>83.7%</i>					
100									
101	<b>Intangible assets</b>								
102	Purchases	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>					
103	Amortization	<b>(79.1)</b>	<b>(97.7)</b>	<b>(86.9)</b>					
104									
105	<b>Goodwill and other assets</b>								
106									
107	<b>Other liabilities</b>								
108									

### Let's start with PP&E...

- We inputted historical ending period PP&E from the 10K BS, and capex from the CFS.
- We calculate capex as % of revenue
- Notice that we can't just take D&A from the CFS because we want only depreciation.
- We found the depreciation disclosure in the PP&E footnote (p.72.)
- We calculate depreciation as a % of capex.
- Note that we aren't trying to tie prior period PP&E to current period PP&E – we just want to identify recurring capex and D&A so that we can accurately forecast. For example, we ignore write-downs, etc.

**Insider's tip when building B/S schedules:** When you input data from the 10K, be very careful about signs. Capex in the CFS is an outflow, but it is an increase to PP&E. The reverse is true for depreciation.

## Let's turn to software development costs (SDC)...

- Recall from the accounting crash course that SDC reflects the capitalization of spending on salaries and other development costs for software development
- Bigger item than PP&E for BMC
- Just like intangibles, purchases grow the capital asset, and amortization reduces it
- Let's review BMC's disclosure on these costs in the next slide

A	B	C	D	E	F	G	H	I	J
84									
85	<b>LONG LIVED ASSETS</b>								
<hr/>									
86	Fiscal year	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
87	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
88									
89	<b>PP&amp;E</b>								
90	Capital expenditures	22.0	26.5	24.5					
91	Depreciation	(39.1)	(37.8)	(38.7)					
92	<i>Capex as a % of revenue</i>	(1.1%)	(1.2%)	(1.1%)					
93	<i>Depreciation as a % of capex</i>	177.7%	142.6%	158.0%					
94									
95	<b>Software development costs</b>								
96	Purchases	115.8	132.5	129.6					
97	Amortization	(75.7)	(93.6)	(108.5)					
98	<i>Purchases as % of revenue</i>	5.6%	6.1%	5.9%					
99	<i>Amortization as a % of purchases</i>	65.4%	70.6%	83.7%					
100									
101	<b>Intangible assets</b>								
102	Purchases	0.0	0.0	0.0					
103	Amortization	(79.1)	(97.7)	(86.9)					
104									
105	<b>Goodwill and other assets</b>								
106									
107	<b>Other liabilities</b>								
108									

## Software development costs - disclosure on p.86

We use the cash outflow for software development from the CFS<sup>1</sup>

We use the amortization expense provided in the disclosure

### Software Development Costs

Costs of software developed internally for licensing to third parties are expensed until the technological feasibility of the software product has been established. Thereafter, software development costs incurred through the general release of the software products are capitalized and subsequently reported at the lower of unamortized cost or net realizable value. Capitalized software development costs are then amortized using the greater of an amount determined by the ratio of current revenues recognized to the total anticipated revenues for a product or straight-line over the product's estimated economic life beginning at the date of general availability of the product to our customers. The amortization of capitalized software development costs, including any amounts accelerated for products that are not expected to generate sufficient future revenue to realize their carrying values, is included in cost of license revenue in the consolidated statements of comprehensive income. During fiscal 2013, 2012 and 2011, amounts capitalized were \$142.7 million, \$144.5 million and \$124.0 million, respectively, and amounts amortized were \$108.5 million, \$93.6 million and \$75.7 million, respectively. Additionally, in fiscal 2013, we recorded a \$7.5 million asset impairment related to certain capitalized development projects that are being discontinued as part of our fiscal 2013 operational review. Amounts capitalized during fiscal 2013, 2012 and 2011 included \$4.9 million, \$4.9 million and \$4.4 million, respectively, of capitalized interest; and approximately \$13.1 million, \$12.0 million and \$8.2 million, respectively, of share-based compensation costs.

**In the weeds:** This amortization expense is due to SDC. BMC separately identifies amortization expense from intangible assets. This will get confusing later, so keep this in mind.

### Cash flows from investing activities:

Proceeds from maturities of investments	95.5	30.8	50.0
Proceeds from sales of investments	15.4	15.1	47.8
Purchases of investments	(173.1)	(88.5)	(57.6)
Cash paid for acquisitions, net of cash acquired, and other investments	(19.4)	(164.3)	(51.0)
Capitalization of software development costs	(129.6)	(132.5)	(115.8)
Purchases of property and equipment	(24.5)	(26.5)	(22.0)
Other investing activities	1.9	—	1.0
Net cash used in investing activities	(233.8)	(665.9)	(147.6)

<sup>1</sup>The disclosure on p.86 provides capitalized amounts that are slightly higher than the capitalized amounts disclosed in the CFS. That's because the total capitalized amount include non-cash items that models should handle separately to avoid misstating cash flow forecasts. As a result, we use the CFS amount.

## Intangible assets

BMC did not identify any intangible purchases during the last 3 years, but they did identify the amortization from prior purchases

88				
89	<b>PP&amp;E</b>		<b>87.8</b>	<b>85.2</b>
90	Capital expenditures	22.0	26.5	24.5
91	Depreciation	(39.1)	(37.8)	(38.7)
92	<i>Capex as a % of revenue</i>	(1.1%)	(1.2%)	(1.1%)
93	<i>Depreciation as a % of capex</i>	177.7%	142.6%	158.0%
94				
95	<b>Software development costs</b>		<b>244.7</b>	<b>271.4</b>
96	Purchases	115.8	132.5	129.6
97	Amortization	(75.7)	(93.6)	(108.5)
98	<i>Purchases as % of revenue</i>	5.6%	6.1%	5.9%
99	<i>Amortization as a % of purchases</i>	65.4%	70.6%	83.7%
100				
101	<b>Intangible assets</b>		<b>257.5</b>	<b>189.8</b>
102	Purchases	0.0	0.0	0.0
103	Amortization	(79.1)	(97.7)	(86.9)
104				
105	<b>Goodwill and other assets</b>		<b>1,940.3</b>	<b>1,935.2</b>
106				
107	<b>Other liabilities</b>		<b>232.4</b>	<b>252.0</b>

**In the weeds:** Amortization from intangible assets is expensed and reported buried within several operating expense line items on the IS, but usually added back to calculate Non-GAAP income. It's in the non-GAAP adjustment that you can usually find the amount (as opposed to explicitly on the IS).

BMC also discloses amortization attributable to acquired technology (but excluding customer relationships and trademarks) on p.105 – but using that figure would understate amortization expense.

As a sanity check you can go to D&A from the CFS and subtract the D&A we allocated to PP&E and SDC. It doesn't exactly match (for reasons BMC doesn't disclose) but the difference is very small.

Operating income: GAAP operating income Share-based compensation expense (1) Amortization of intangible assets (2) Severance, exit costs and other restructuring charges (3) Proxy contest costs (4) Non-GAAP operating income	Year Ended March 31,		
	2013	2012	2011
	(In millions)		
\$465.4	\$543.9	\$532.8	
147.4	127.2	106.5	
86.9	97.7	79.1	
36.0	10.8	14.3	
4.9	—	—	
<b>\$740.6</b>	<b>\$779.6</b>	<b>\$732.7</b>	

## Now it's time to forecast long lived assets – we'll start with PP&E

- **Capex:** Management discloses capex forecasts on p.72 of merger proxy. Input this assumption. Had we not had this guidance we would have maintained the current ratio of capex to revenue.
- **Depreciation of PP&E:** The current ratio of depreciation / capex is unsustainably high and should converge to 1 over time, as new PP&E simply replace the obsolescence of old PP&E. Create a formula that smoothly (i.e. equal annual increments) brings this ratio to 1 by the end of the forecast period.

### LBO specific considerations

- In an LBO where fixed asset purchases are limited to maintenance (as opposed to growth) capex, you'll often see assumptions for pruning back capital spending. Capital spending for BMC is already fairly minimal, so we simply used BMC's guidance.

87	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
88									
89	<b>PP&amp;E</b>		<b>87.8</b>	<b>85.2</b>					
90	Capital expenditures	22.0	26.5	24.5					
91	Depreciation	(39.1)	(37.8)	(38.7)					
92	<i>Capex as a % of revenue</i>	(1.1%)	(1.2%)	(1.1%)					
93	<i>Depreciation as a % of capex</i>	177.7%	142.6%	158.0%					
94									
95	<b>Software development costs</b>								
96	Purchases								
97	Amortization								
98	<i>Purchases as % of revenue</i>								
99	<i>Amortization as a % of pu</i>								
100									
101	<b>Intangible assets</b>								
102	Purchases								
103	Amortization								
104									
105	<b>Goodwill and other assets</b>								
106	Cash Flow from Operations								
107	Capital Expenditures								
108	Other liabilities								

**Summary of the Projections**

(dollars in million)

	Fiscal Year Ending				
	31-Mar-14	31-Mar-15	31-Mar-16	31-Mar-17	31-Mar-18
Revenue	\$ 2,278	\$ 2,403	\$ 2,549	\$ 2,677	\$ 2,804
Operating Income (Non-GAAP) <sup>(1)</sup>	802	869	950	1,011	1,059
Net Income (Non-GAAP) <sup>(1)</sup>	562	613	673	720	758
Share-based Compensation Expense	162	162	156	157	158
Depreciation & Amortization <sup>(2)</sup>	150	136	133	141	146
Cash Flow from Operations	825	885	940	990	1,033
Capital Expenditures	26	28	30	29	31
Capitalized Software Development Costs	116	114	116	128	135

A	B	C	D	E	F	G	H	I	J
84									
85	LONG LIVED ASSETS								
<b>Forecasting SDC: Very similar to PP&amp;E</b>									
93	Depreciation as a % of capex	177.7%	142.6%	158.0%					
94									
95	<b>Software development costs</b>		<b>244.7</b>	<b>271.4</b>					
96	Purchases	115.8	132.5	129.6					
97	Amortization	(75.7)	(93.6)	(108.5)					
98	Purchases as % of revenue	5.6%	6.1%	5.9%					
99	Amortization as a % of purchases	65.4%	70.6%	83.7%					
100									
101	<b>Intangible assets</b>		<b>257.5</b>	<b>180.8</b>					
102	Purchases								
103	Amortization								
104									
105	<b>Goodwill and other</b>								
106									
107	<b>Other liabilities</b>								
108									
<b>Summary of the Projections</b>									
(dollars in million)									
Fiscal Year Ending									
31-Mar-14    31-Mar-15    31-Mar-16    31-Mar-17    31-Mar-18									
Revenue									
\$ 2,278    \$ 2,403    \$ 2,549    \$ 2,677    \$ 2,804									
Operating Income (Non-GAAP) <sup>(1)</sup>									
802    869    950    1,011    1,059									
Net Income (Non-GAAP) <sup>(1)</sup>									
562    613    673    720    758									
Share-based Compensation Expense									
162    162    156    157    158									
Depreciation & Amortization <sup>(2)</sup>									
150    136    133    141    146									
Cash Flow from Operations									
825    885    940    990    1,033									
Capital Expenditures									
26    28    30    29    31									
Capitalized Software Development Costs									
116    114    116    128    135									

## Forecasting intangible assets

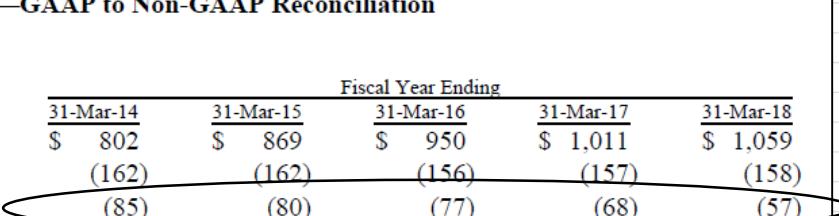
- No guidance provided for purchases but guidance is provided for amortization.
- The last 3 years' pattern of no purchases is unsustainable given management's guidance of future amortization expense in the proxy, as this would imply negative amortization by year 3 of the forecast.
- Accordingly, let's use management's guidance for amortization, but also assume that the intangible asset balances stay the same throughout the forecast, meaning BMC makes purchases exactly equal to amortization expense.

85	LONG LIVED ASSETS	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
86	Fiscal year								
87	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
88									
89 <b>PP&amp;E</b>									
90 Capital expendit									
91 Depreciation									
92 Capex as a % o									
93 Depreciation a									
94									
95 <b>Software develop</b>									
96 Purchases									
97 Amortization									
98 Purchases as %									
99 Amortization a									
100									
101 <b>Intangible assets</b>									
102 Purchases		257.5	189.8						
103 Amortization		0.0	0.0	0.0					
104									
105 <b>Goodwill and other assets</b>		1,940.3	1,935.2						
106									
107 <b>Other liabilities</b>		232.4	252.0						
108									

**Operating Income—GAAP to Non-GAAP Reconciliation**

(dollars in million)

	Fiscal Year Ending	31-Mar-14	31-Mar-15	31-Mar-16	31-Mar-17	31-Mar-18
Operating Income (Non-GAAP)		\$ 802	\$ 869	\$ 950	\$ 1,011	\$ 1,059
Share-based compensation expense		(162)	(162)	(156)	(157)	(158)
Amortization of intangible assets		(85)	(80)	(77)	(68)	(57)
Severance, exit costs and other restructuring charges		(16)	(5)	(5)	0	0
Operating Income (GAAP)		539	623	712	786	844



## Straight-line 'Goodwill and other assets' as well as 'Other liabilities'

A	B	C	D	E	F	G	H	I	J	K
84										
85	<b>LONG LIVED ASSETS</b>									
86	Fiscal year		2012A	2013A	2014P	2015P	2016P	2017P	2018P	
87	Fiscal year end date		3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18	
88										
89	<b>PP&amp;E</b>		87.8	85.2	73.1	63.4	56.5	53.1	53.1	
90	Capital expenditures	22.0	26.5	24.5	26.0	28.0	30.0	29.0	31.0	
91	Depreciation	(39.1)	(37.8)	(38.7)	(38.1)	(37.7)	(37.0)	(32.4)	(31.0)	Smoothing?
92	Capex as a % of revenue	(1.1%)	(1.2%)	(1.1%)	(1.1%)	(1.2%)	(1.2%)	(1.1%)	(1.1%)	Yes
93	Depreciation as a % of capex	177.7%	142.6%	158.0%	146.4%	134.8%	123.2%	111.6%	100.0%	(12%)
94										
95	<b>Software development costs</b>		244.7	271.4	286.5	297.6	305.2	309.4	309.4	
96	Purchases	115.8	132.5	129.6	116.0	114.0	116.0	128.0	135.0	
97	Amortization	(75.7)	(93.6)	(108.5)	(100.9)	(102.9)	(108.4)	(123.8)	(135.0)	Smoothing?
98	Purchases as % of revenue	5.6%	6.1%	5.9%	5.1%	4.7%	4.6%	4.8%	4.8%	Yes
99	Amortization as a % of purchases	65.4%	70.6%	83.7%	87.0%	90.2%	93.5%	96.7%	100.0%	3%
100										
101	<b>Intangible assets</b>		257.5	189.8	189.8	189.8	189.8	189.8	189.8	
102	Purchases	0.0	0.0	0.0	85.0	80.0	77.0	68.0	57.0	
103	Amortization	(79.1)	(97.7)	(86.9)	(85.0)	(80.0)	(77.0)	(68.0)	(57.0)	
104										
105	<b>Goodwill and other assets</b>		1,940.3	1,935.2	1,935.2	1,935.2	1,935.2	1,935.2	1,935.2	
106										
107	<b>Other liabilities</b>		232.4	252.0	252.0	252.0	252.0	252.0	252.0	
108										

## Check your work

## Complete the EBITDA reconciliation section

A	B	C	D	E	F	G	H	I	J
54									
55	<u>EBITDA reconciliation</u>								
56	EBIT (GAAP)	532.8	543.9	465.4	546.7	612.8	687.8	762.3	841.0
57	Depreciation and amortization	190.0	224.6	229.0	223.9	220.6	222.4	224.2	=-(J97+J91+J103)
58	Stock based compensation	106.5	127.2	147.4	161.1	162.1	163.7	163.6	162.9
59	Restructuring and other nonrecurring	14.3	10.8	40.9	16.0	5.0	5.0	0.0	0.0
60	EBITDA	843.6	906.5	882.7	947.7	1,000.5	1,078.9	1,150.1	1,226.9
61									
85	<b>LONG LIVED ASSETS</b>								
86	Fiscal year	2012A	2013A	2014P	2015P	2016P	2017P	2018P	
87	Fiscal year end date	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18	
88									
89	<b>PP&amp;E</b>	87.8	85.2	73.1	63.4	56.5	53.1	53.1	
90	Capital expenditures	22.0	26.5	24.5	26.0	28.0	30.0	29.0	31.0
91	Depreciation	(39.1)	(37.8)	(38.7)	(38.1)	(37.7)	(37.0)	(32.4)	(31.0)
92	Capex as a % of revenue	(1.1%)	(1.2%)	(1.1%)	(1.1%)	(1.2%)	(1.2%)	(1.1%)	(1.1%)
93	Depreciation as a % of capex	177.7%	142.6%	158.0%	146.4%	134.8%	123.2%	111.6%	100.0%
94									
95	<b>Software development costs</b>	244.7	271.4	286.5	297.6	305.2	309.4	309.4	
96	Purchases	115.8	132.5	129.6	116.0	114.0	116.0	128.0	135.0
97	Amortization	(75.7)	(93.6)	(108.5)	(100.9)	(102.9)	(108.4)	(123.8)	(135.0)
98	Purchases as % of revenue	5.6%	6.1%	5.9%	5.1%	4.7%	4.6%	4.8%	4.8%
99	Amortization as a % of purchases	65.4%	70.6%	83.7%	87.0%	90.2%	93.5%	96.7%	100.0%
100									
101	<b>Intangible assets</b>	257.5	189.8	189.8	189.8	189.8	189.8	189.8	
102	Purchases	0.0	0.0	0.0	85.0	80.0	77.0	68.0	57.0
103	Amortization	(79.1)	(97.7)	(86.9)	(85.0)	(80.0)	(77.0)	(68.0)	(57.0)
104									

**Sanity check our model's EBITDA forecast** against management's guidance (be sure to count both amortization from SDC and from intangible assets)

**Result:** The model is very close to guidance –by design for our default management case!

	Summary of the Projections				
(dollars in million)					
	Fiscal Year Ending				
	31-Mar-14	31-Mar-15	31-Mar-16	31-Mar-17	31-Mar-18
Revenue	\$ 2,278	\$ 2,403	\$ 2,549	\$ 2,677	\$ 2,804
Operating Income (Non-GAAP) <sup>(1)</sup>	802	869	950	1,011	1,059
Net Income (Non-GAAP) <sup>(1)</sup>	562	613	673	720	758
Share-based Compensation Expense	162	162	156	157	158
Depreciation & Amortization <sup>(2)</sup>	150	136	133	141	146
Cash Flow from Operations	825	885	940	990	1,033
Capital Expenditures	26	28	30	29	31
Capitalized Software Development Costs	116	114	116	128	135

(1) Non-GAAP operating income and Non-GAAP net income exclude share-based compensation expense, amortization of intangible assets and severance, exit costs and other restructuring charges.

(2) Excludes amortization of intangible assets and amortization of amounts previously capitalized related to share-based compensation costs.

Set forth below is a reconciliation of Non-GAAP operating income and Non-GAAP net income to the most comparable GAAP financial measures based on financial information available to, or projected by, the Company (totals may not add due to rounding):

#### Operating Income—GAAP to Non-GAAP Reconciliation

(dollars in million)	Fiscal Year Ending				
	31-Mar-14	31-Mar-15	31-Mar-16	31-Mar-17	31-Mar-18
Operating Income (Non-GAAP)	\$ 802	\$ 869	\$ 950	\$ 1,011	\$ 1,059
Share-based compensation expense	(162)	(162)	(156)	(157)	(158)
Amortization of intangible assets	(85)	(80)	(77)	(68)	(57)
Severance, exit costs and other restructuring charges	(16)	(5)	(5)	0	0
Operating Income (GAAP)	539	623	712	786	844

Amortization of intangibles and SBC is already excluded from non-GAAP EBIT

## Link the model's 2013 EBITDA to cell D13

A	B	C	D	E	F	G	H	I	J	
1										
2	<b>Leveraged Buyout Model for BMC</b>									
3	\$ mm except per share									
4										
5	<b>GENERAL INPUTS</b>					<b>INITIAL VALUATION</b>				
6	Company name		BMC							
7	Ticker (if applicable)		BMC							
8	Current share price (if applicable)		45.42							
9	Latest closing share price date (if applicable)		5/6/2013							
10	Circuit breaker:		OFF							
11										
12	<b>SELECT FINANCIAL DATA / ASSUMPTIONS</b>									
13	EBITDA (LTM)		=E60							
14	Gross Debt (input as a -)		(1,306)							
15	Cash		1,582							
16	Minimum cash desired		180							
17	EV / LTM EBITDA multiple at exit		7.3x							
18										
54										
55	<u>EBITDA reconciliation</u>									
56	EBIT (GAAP)	532.8	543.9	465.4	546.7	612.8	687.8	762.3	841.0	
57	Depreciation and amortization	190.0	224.6	229.0	223.9	220.6	222.4	224.2	223.0	
58	Stock based compensation	106.5	127.2	147.4	161.1	162.1	163.7	163.6	162.9	
59	Restructuring and other nonrecurring	14.3	10.8	40.9	16.0	5.0	5.0	0.0	0.0	
60	EBITDA	843.6	906.5	882.7	947.7	1,000.5	1,078.9	1,150.1	1,226.9	
61										

# **Take a breath...let's discuss where we're going**

- We've come a long way. At this point we have forecasted BMC's accrual based profits as well as the operating assets and liabilities
  - We now have enough to build a forecast for cash flows before debt-related payments (which will be a biggie)
  - To get this right, you'll need to remember how changes in balance sheet items affect the cash flow statement
  - Ok, let's go...

## Complete the cash flow statement

Leave the shaded rows blank – we can't forecast them yet

A	B	C	D	E	F	G	H	I	J
106									
107	Other liabilities			232.4	252.0	252.0	252.0	252.0	252.0
108									
109	<b>CASH FLOW STATEMENT</b>								
110	<i>Fiscal year</i>				2014P	2015P	2016P	2017P	2018P
111	Fiscal year end date				3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
112									
113	Net income								
114	Depreciation and amortization								
115	Stock based compensation								
116	Changes in net working capital								
117	Other assets & liabilities								
118	Addback of PIK interest								
119	<b>Cash from operating activities</b>								
120									
121	Capital expenditures								
122	Purchases of intangible assets and capitalized software development costs								
123	<b>Cash from investing activities</b>								
124									
125	Required debt principal payments								
126	Preferred dividend (cash)								
127	<b><i>Pre-revolver cash flows</i></b>								
128	Revolver								
129	<b><i>Post-revolver cash flows</i></b>								
130	Discretionary Term A paydown								
131	Discretionary Term B paydown								
132	<b>Net change in cash during period</b>								

## Check your work

- Remember that increases in assets are an outflow (and vice versa for liabilities)
- Note that CFO won't match guidance yet because our net income forecast still excludes interest expense

100								
101	Intangible assets		257.5	189.8	189.8	189.8	189.8	189.8
102	Purchases	0.0	0.0	0.0	85.0	80.0	77.0	68.0
103	Amortization	(79.1)	(97.7)	(86.9)	(85.0)	(80.0)	(77.0)	(68.0)
104								
105	Goodwill and other assets	1,940.3	1,935.2	1,935.2	1,935.2	1,935.2	1,935.2	1,935.2
106								
107	Other liabilities	232.4	252.0	252.0	252.0	252.0	252.0	252.0
108								
109	CASH FLOW STATEMENT							
110	Fiscal year			2014P	2015P	2016P	2017P	2018P
111	Fiscal year end date			3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
112								
113	Net income			422.9	474.0	532.0	589.7	650.5
114	Depreciation and amortization			223.9	220.6	222.4	224.2	223.0
115	Stock based compensation			161.1	162.1	163.7	163.6	162.9
116	Changes in net working capital			56.8	95.1	109.4	96.5	97.2
117	Other assets & liabilities			=E105-F105+F107-E107		0.0	0.0	0.0
118	Addback of PIK interest							
119	Cash from operating activities			864.7	951.8	1,027.6	1,073.9	1,133.6
120								
121	Capital expenditures			(26.0)	(28.0)	(30.0)	(29.0)	(31.0)
122	Purchases of intangible assets and capitalized software development costs			(201.0)	(194.0)	(193.0)	(196.0)	(192.0)
123	Cash from investing activities			(227.0)	(222.0)	(223.0)	(225.0)	(223.0)
124								
125	Required debt principal payments							
126	Preferred dividend (cash)							
127	Pre-revolver cash flows			637.7	729.8	804.6	848.9	910.6
128	Revolver							
129	Post-revolver cash flows			637.7	729.8	804.6	848.9	910.6
130	Discretionary Term A paydown							
131	Discretionary Term B paydown							
132	Net change in cash during period			637.7	729.8	804.6	848.9	910.6

# Let's Model

The following modeling steps cover:

- Forecasting Debt & Cash
- Interest expense & Circularity

## ASPs

iPhone	636.3	629.3	607.5	583.2	583.2
% growth	(1.1%)	(3.5%)	(4.0%)	0.0%	0.0%
iPad	591.7	530.7	450.2	441.2	441.2
% growth	(10.3%)	(15.2%)	(2.0%)	0.0%	0.0%
Mac	1,301.6	1,278.8	1,214.7	1,214.7	1,229.2
% growth	(1.8%)	2.8%	0.0%	(6.5%)	(6.5%)
iPod	174.9	159.7	167.2	165.5	162.2
% growth	(8.7%)	4.7%	(1.0%)	(2.0%)	(2.0%)
iTunes / Software / Ser	37.5%	24.5%	20.0%	20.0%	20.0%
Accessories	15.0%	10.9%	10.0%	15.0%	15.0%

2012A 9/29/12	2013A 9/28/13	2014P 9/30/14	2015P 9/30/15	2016P 9/30/16	2017P 9/30/17	2018P 9/30/18
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WORKING CAPITAL	2012A 9/29/12	2013A 9/28/13	2014P 9/30/14	2015P 9/30/15
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Market securities	121,351	146,761	152,456	161,000	167,912	178,863	185,261
Trade receivables	10,930	13,102	13,454	14,318	14,959	15,695	16,541
Less: Goodwill	791	1,764	1,805	1,887	1,971	2,068	2,180
Current & non-current	2,583	3,453	3,453	3,453	3,453	3,453	3,453

Fiscal year	2012A 9/29/12	2013A 9/28/13	2014P 9/30/14	2015P 9/30/15
Fiscal year end date	9/29/12	9/28/13	9/30/14	9/30/15

Accounts receivable	14,320	14,421	14,421	14,421	14,421	14,421	14,421
Beginning of period	15,452	16,597	18,467	23,655	28,031	32,621	37,460
Increases / (decreases)	5,359	5,756	4,706	3,721	2,888	2,282	1,848
End of period	5,478	5,146	5,146	5,146	5,146	5,146	5,146

AR as % of sales	7.0%	7.7%	7.5%	7.6%
Days sales outstanding	25 days	28 days	27 days	28 days

176,064	207,000	214,908	227,600	238,781	254,550	266,310
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Open the following files to begin:

- Workfile2.xlsx

## Cash and interest income

- We reference historical cash balances from the last two years (the 2013 balance can be referenced from cell D15) but we have to go back to the 10K for 2012 balances (remember to include both ST and LT investments)
- We reference interest income from the IS in row 48
- That enables us to calculate interest income – use average BOP and EOP cash balances to calculate the implied interest earned on cash

A	B	C	D	E	F	G	H	I	J
133									
134	<b>CASH &amp; DEBT</b>								
135	<i>Fiscal year</i>	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
136	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
137									
138	Cash, BOP								
139	Increases / (decreases)								
140	<b>Cash, EOP</b>	1,635.6		1,581.9					
141	Interest rate on cash		0.65%		0.52%				
142	Interest income		10.6		8.3				

## Forecast cash

- Add the net change in cash calculated in row 132 to the BOP cash balance
- While you can usually assume that prior period's EOP cash = current period BOP cash, that's not the case in 2014 because we assume that most of the cash on BMC's B/S is used as a source of funds in the deal. As a result, the 2014 BOP cash balance must be referenced from D16 – we put a border around it to note that it is a different formula from the rest of the forecast

A	B	C	D	E	F	G	H	I	J
46	Selling, general & administrative (ente	(865.7)	(894.0)	(969.4)	(965.4)	(994.5)	(1,028.6)	(1,053.3)	(1,075.8)
47	Operating profit (EBIT)	532.8	543.9	465.4	546.7	612.8	687.8	762.3	841.0
48	Interest income	15.0	10.6	8.3					
49	Interest expense (enter as -)	(19.8)	(23.3)	(47.8)					
50	Other non-operating expense (enter as	3.3	(1.2)	2.0	0.0	0.0	0.0	0.0	0.0
51	Pretax profit	531.3	530.0	427.9	546.7	612.8	687.8	762.3	841.0
52	Taxes (enter expense as -)	(75.1)	(129.0)	(96.9)	(123.8)	(138.8)	(155.8)	(172.6)	(190.4)
53	Net income	456.2	401.0	331.0	422.9	474.0	532.0	589.7	650.5
54									
55	<u>EBITDA reconciliation</u>								
56	EBIT (GAAP)	532.8	543.9	465.4	546.7	612.8	687.8	762.3	841.0
57	Depreciation and amortization	190.0	224.6	229.0	223.9	220.6	222.4	224.2	223.0
129	<i>Post-revolver cash flows</i>				637.7	729.8	804.6	848.9	910.6
130	Discretionary Term A paydown								
131	Discretionary Term B paydown								
132	Net change in cash during period				637.7	729.8	804.6	848.9	910.6
133									
134	<b>CASH &amp; DEBT</b>								
135	<i>Fiscal year</i>	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
136	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
137									
138	Cash, BOP				180.0	817.7	1,547.5	2,352.0	3,201.0
139	Increases / (decreases)				=F132	729.8	804.6	848.9	910.6
140	Cash, EOP	1,635.6	1,581.9	817.7	1,547.5	2,352.0	3,201.0	4,111.5	
141	Interest rate on cash	0.65%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%
142	Interest income	10.6	8.3	2.6	6.1	10.1	14.3	18.9	
143									

## Forecasting interest income

- Assume the % interest earned on the cash is the same as 2013 throughout the forecast period
- Calculate interest income by dividing interest income forecast by average of BOP and EOP cash balances
- Link the interest income back to the I/S
- Circularity created!** Insert a circuit breaker into the interest income forecast formula (breaker is in cell D10)<sup>1</sup>

A	B	C	D	E	F	G	H	I	J
46	Selling, general & administrative (ente	(865.7)	(894.0)	(969.4)	(965.4)	(994.5)	(1,028.6)	(1,053.3)	(1,075.8)
47	<b>Operating profit (EBIT)</b>	532.8	543.9	465.4	546.7	612.8	687.8	762.3	841.0
48	Interest income	15.0	10.6	8.3	2.6	6.1	10.1	14.4	=J142
49	Interest expense (enter as -)	(19.8)	(23.3)	(47.8)					
50	Other non-operating expense (enter as	3.3	(1.2)	2.0	0.0	0.0	0.0	0.0	0.0
51	Pretax profit	531.3	530.0	427.9	549.3	618.9	697.9	776.7	860.0
52	Taxes (enter expense as -)	(75.1)	(129.0)	(96.9)	(124.4)	(140.2)	(158.0)	(175.9)	(194.7)
53	Net income	456.2	401.0	331.0	424.9	478.8	539.9	600.8	665.2
54									
55	<u>EBITDA reconciliation</u>								
56	<b>EBIT (GAAP)</b>	532.8	543.9	465.4	546.7	612.8	687.8	762.3	841.0
57	Depreciation and amortization	190.0	224.6	229.0	223.9	220.6	222.4	224.2	223.0
129	<b>Post-revolver cash flows</b>				639.7	734.5	812.4	860.1	925.3
130	Discretionary Term A paydown								
131	Discretionary Term B paydown								
132	<b>Net change in cash during period</b>				639.7	734.5	812.4	860.1	925.3
133									
134	<b>CASH &amp; DEBT</b>								
135	<i>Fiscal year</i>	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
136	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
137									
138	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
139	Increases / (decreases)				639.7	734.5	812.4	860.1	925.3
140	<b>Cash, EOP</b>	1,635.6	1,581.9	819.7	1,554.2	2,366.6	3,226.7	4,152.0	
141	Interest rate on cash	0.65%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%	
142	Interest income	10.6	8.3	2.6	6.1	10.1	14.4	19.0	

<sup>1</sup>The cause of this circularity is that EOP cash determines interest income, which affects net income and in turn, the EOP cash balance itself. As we've addressed in our financial modeling course, circuit breakers help manage the instability caused by intentional circularities in models.

## Check your work

A	B	C	D	E	F	G	H	I	J
40	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
41									
42	Revenue	2,065.3	2,172.0	2,201.4	2,278.4	2,403.8	2,548.0	2,675.4	2,803.8
43	Cost of sales (enter as -)	(485.2)	(568.9)	(592.0)	(581.6)	(601.6)	(624.9)	(642.8)	(659.6)
44	<b>Gross Profit</b>	<b>1,580.1</b>	<b>1,603.1</b>	<b>1,609.4</b>	<b>1,696.9</b>	<b>1,802.2</b>	<b>1,923.1</b>	<b>2,032.6</b>	<b>2,144.2</b>
45	Research & development (enter as -)	(181.6)	(165.2)	(174.6)	(184.8)	(194.9)	(206.6)	(217.0)	(227.4)
46	Selling, general & administrative (ente	(865.7)	(894.0)	(969.4)	(965.4)	(994.5)	(1,028.6)	(1,053.3)	(1,075.8)
47	<b>Operating profit (EBIT)</b>	<b>532.8</b>	<b>543.9</b>	<b>465.4</b>	<b>546.7</b>	<b>612.8</b>	<b>687.8</b>	<b>762.3</b>	<b>841.0</b>
48	Interest income	15.0	10.6	8.3	2.6	6.1	10.1	14.4	19.0
49	Interest expense (enter as -)	(19.8)	(23.3)	(47.8)					
50	Other non-operating expense (enter as	3.3	(1.2)	2.0	0.0	0.0	0.0	0.0	0.0
51	<b>Pretax profit</b>	<b>531.3</b>	<b>530.0</b>	<b>427.9</b>	<b>549.3</b>	<b>618.9</b>	<b>697.9</b>	<b>776.7</b>	<b>860.0</b>
129	<b>Post-revolver cash flows</b>				639.7	734.5	812.4	860.1	925.3
130	Discretionary Term A paydown								
131	Discretionary Term B paydown								
132	<b>Net change in cash during period</b>				639.7	734.5	812.4	860.1	925.3
133									
134	<b>CASH &amp; DEBT</b>								
135	<i>Fiscal year</i>	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
136	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
137									
138	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
139	Increases / (decreases)				639.7	734.5	812.4	860.1	925.3
140	<b>Cash, EOP</b>	<b>1,635.6</b>	<b>1,581.9</b>	<b>819.7</b>	<b>1,554.2</b>	<b>2,366.6</b>	<b>3,226.7</b>	<b>4,152.0</b>	
141	Interest rate on cash	0.65%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%
142	Interest income	10.6	8.3	2.6	6.1	10.1	14.4	19.0	

## Determine how much cash surplus or deficit exists during each period (F145:J149)

For now, it will appear as though there is a huge surplus each period – that won't last because we haven't accounted for mandatory (and sizeable) debt related payments yet

COUNTIF ▾ X ✓ fx =F127

A	B	C	D	E	F	G	H	I	J
124									
125	Required debt principal payments								
126	Preferred dividend (cash)								
127	<i>Pre-revolver cash flows</i>				639.7	734.5	812.4		
128	Revolver								
129	<i>Post-revolver cash flows</i>				639.7	734.5	812.4		
130	Discretionary Term A paydown								
131	Discretionary Term B paydown								
132	<b>Net change in cash during period</b>				639.7	734.5	812.4		
133									
134	<b>CASH &amp; DEBT</b>								
135	<i>Fiscal year</i>	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
136	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
137									
138	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
139	Increases / (decreases)				639.7	734.5	812.4	860.1	925.3
140	Cash, EOP	1,635.6	1,581.9	819.7	1,554.2	2,366.6	3,226.7	4,152.0	
141	Interest rate on cash	0.65%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%
142	Interest income	10.6	8.3	2.6	6.1	10.1	14.4	19.0	
143									
144	<b>Revolver</b>								
145	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
146	Less: Minimum cash desired				180.0	180.0	180.0	180.0	180.0
147	Equals: Excess cash at BOP				0.0	639.7	1,374.2	2,186.6	3,046.7
148	<b>Plus: Free cash flows generated during period</b>				=F127	734.5	812.4	860.1	925.3
149	<b>Cash available (needed) to paydown (draw from) revolver</b>				639.7	1,374.2	2,186.6	3,046.7	3,972.0
150									

**Common mistake alert!**  
if you link this incorrectly  
your model will not  
function properly

## Set up the revolver forecast as illustrated

1. In cell F151, reference the initial revolver opening balance that we defined in cell D28 (recall that BMC didn't initially draw on their revolver)
2. Determine what the revolver draw or paydown will be during the period
  - You must use a function that will prevent the revolver balance from going negative
3. Determine whether the revolver will be in compliance with borrowing base limits. The revolving credit agreement wasn't made public so we assume a somewhat typical maximum availability of 80% of AR + 65% of inventory (use current period EOP balances)

A	B	C	D	E	F	G	H	I	J
134	<b>CASH &amp; DEBT</b>								
135	<i>Fiscal year</i>	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
136	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
137									
138	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
139	Increases / (decreases)				639.7	734.5	812.4	860.1	925.3
140	Cash, EOP	1,635.6	1,581.9	819.7	1,554.2	2,366.6	3,226.7	4,152.0	
141	Interest rate on cash	0.65%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%
142	Interest income	10.6	8.3	2.6	6.1	10.1	14.4	19.0	
143									
144	<u>Revolver</u>								
145	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
146	Less: Minimum cash desired				180.0	180.0	180.0	180.0	180.0
147	Equals: Excess cash at BOP				0.0	639.7	1,374.2	2,186.6	3,046.7
148	<u>Plus: Free cash flows generated during period</u>				639.7	734.5	812.4	860.1	925.3
149	<u>Cash available (needed) to paydown (draw from) revolver</u>				639.7	1,374.2	2,186.6	3,046.7	3,972.0
150									
151	Revolver, BOP				0.0	0.0	0.0	0.0	0.0
152	Increases / (decreases)				=MIN(F149,F151)				
153	Revolver, EOP				0.0	0.0	0.0	0.0	0.0
154	Maximum availability	% AR	% Inventory	510.7	538.8	571.2	599.7	628.5	
155	Compliance check	80%	65%	OK	OK	OK	OK	OK	

## Check your work

A	B	C	D	E	F	G	H	I	J
134	<b>CASH &amp; DEBT</b>								
135	<i>Fiscal year</i>	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
136	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
137									
138	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
139	Increases / (decreases)				639.7	734.5	812.4	860.1	925.3
140	Cash, EOP	1,635.6	1,581.9	819.7	1,554.2	2,366.6	3,226.7	4,152.0	
141	Interest rate on cash	0.65%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%
142	Interest income	10.6	8.3	2.6	6.1	10.1	14.4	19.0	
143									
144	<u>Revolver</u>								
145	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
146	Less: Minimum cash desired				180.0	180.0	180.0	180.0	180.0
147	Equals: Excess cash at BOP				0.0	639.7	1,374.2	2,186.6	3,046.7
148	<u>Plus: Free cash flows generated during period</u>				639.7	734.5	812.4	860.1	925.3
149	<i>Cash available (needed) to paydown (draw from) revolver</i>				639.7	1,374.2	2,186.6	3,046.7	3,972.0
150									
151	Revolver, BOP				0.0	0.0	0.0	0.0	0.0
152	Increases / (decreases)				0.0	0.0	0.0	0.0	0.0
153	<u>Revolver, EOP</u>				0.0	0.0	0.0	0.0	0.0
154	<u>Maximum availability</u>	% AR	% Inventory	510.7	538.8	571.2	599.7	628.5	
155	Compliance check	80%	65%	OK	OK	OK	OK	OK	

## Modeling debt tranches using cash sweeps

In an LBO, paying down debt principal is often a requirement by lenders (bank debt). In addition to required debt payments, management often chooses to accelerate debt service via discretionary additional payments. This creates a modeling complexity resolved using a “cash sweep.”

A	B	C	D	E	F	G	H	I	J
150									
151	Revolver, BOP				0.0	0.0	0.0	0.0	0.0
152	Increases / (decreases)				0.0	0.0	0.0	0.0	0.0
153	Revolver, EOP				0.0	0.0	0.0	0.0	0.0
154	Maximum availability		% AR	% Inventory	510.7	538.8	571.2	599.7	628.5
155	Compliance check		80%	65%	OK	OK	OK	OK	OK
156									
157	Term Loan A								
158	Term Loan A, BOP				2,886.4	1,958.1	439.5	0.0	0.0
159	Mandatory paydown \$				288.6	144.3	144.3	0.0	0.0
160	Cash sweep (paydown from excess cash flows)				639.7	1,374.2	295.2	0.0	0.0
161	Term Loan A, EOP				1,958.1	439.5	0.0	0.0	0.0
162	Mandatory paydown (% of original)			% of available cash used	10%	5%	5%	5%	5%
163	Cash sweep				100%	639.7	1,374.2	2,186.6	3,046.7
164									3,972.0

## Determining mandatory payments

1. Term Loan A balance is \$2.9b at deal announcement
2. Mandatory principal paydown was not disclosed, so we'll assume 10% in year 1, 5% thereafter. We input the % assumption in F162:J162 and calculate the \$ amount in F159:J159 where we also insert a formula to ensure debt doesn't go negative

## Determining discretionary payments (i.e. the cash sweep)

See next slide for an explanation

## We now estimate discretionary paydown

1. From the revolver section above, we know the excess cash available (row 149+row 152).
2. We multiply the excess cash available by an assumption about what % of the available cash management chooses to use for this tranche. There may be some debt tranches that management wants to service more quickly than others (we don't have a thesis on this, so the 100% assumption is purely illustrative).
3. Lastly, this amount must be checked against existing term A balances via a formula in row 160 to once again ensure debt doesn't go negative.

Row 163: Formula for Row 163 (F149+F152)

A	B	C	D	E	F	G	H	I	J
144	<u>Revolver</u>								
145	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
146	Less: Minimum cash desired				180.0	180.0	180.0	180.0	180.0
147	Equals: Excess cash at BOP				0.0	639.7	1,374.2	2,186.6	3,046.7
148	<u>Plus: Free cash flows generated during period</u>				639.7	734.5	812.4	860.1	925.3
149	<u>Cash available (needed) to paydown (draw from) revolver</u>				639.7	1,374.2	2,186.6	3,046.7	3,972.0
150									
151	Revolver, BOP				0.0	0.0	0.0	0.0	0.0
152	Increases / (decreases)				0.0	0.0	0.0	0.0	0.0
153	<u>Revolver, EOP</u>				0.0	0.0	0.0	0.0	0.0
154	Maximum availability	% AR	% Inventory		510.7	538.8	571.2	599.7	628.5
155	Compliance check	80%	65%		OK	OK	OK	OK	OK
156									
157	<u>Term Loan A</u>								
158	Term Loan A, BOP				2,886.4	1,958.1	439.5	0.0	0.0
159	Mandatory paydown \$				288.6	144.3	144.3	0.0	0.0
160	Cash sweep (paydown from excess cash flows)				639.7	1,374.2	295.2	0.0	0.0
161	Term Loan A, EOP				1,958.1	439.5	0.0	0.0	0.0
162	Mandatory paydown (% of original)		% of available cash used		10%	5%	5%	5%	5%
163	Cash sweep		100%		639.7	1,374.2	2,186.6	3,046.7	3,972.0
164									
	<pre> =D29 =MIN(F162*\$F\$158,F158) =MIN(F158-F159,F163) =F158-F159-F160 0.1 =\$E\$163*(F149+F152) </pre>				Formula view				

## Now do the same thing for term loan B

Recall BMC raised a second senior secured \$670 m tranche

No required principal paydown details were disclosed, so we make an assumption that it's 5% through 2018

A	B	C	D	E	F	G	H	I	J
144	Revolver								
145	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
146	Less: Minimum cash desired				180.0	180.0	180.0	180.0	180.0
147	Equals: Excess cash at BOP				0.0	639.7	1,374.2	2,186.6	3,046.7
148	Plus: Free cash flows generated during period				639.7	734.5	812.4	860.1	925.3
149	Cash available (needed) to paydown (draw from) revolver				639.7	1,374.2	2,186.6	3,046.7	3,972.0
150									
151	Revolver, BOP				0.0	0.0	0.0	0.0	0.0
152	Increases / (decreases)				0.0	0.0	0.0	0.0	0.0
153	Revolver, EOP				0.0	0.0	0.0	0.0	0.0
154	Maximum availability		% AR	% Inventory	510.7	538.8	571.2	599.7	628.5
155	Compliance check		80%	65%	OK	OK	OK	OK	OK
156									
157	Term Loan A								
158	Term Loan A, BOP				2,886.4	1,958.1	439.5	0.0	0.0
159	Mandatory paydown \$				288.6	144.3	144.3	0.0	0.0
160	Cash sweep (paydown from excess cash flows)				639.7	1,374.2	295.2	0.0	0.0
161	Term Loan A, EOP				1,958.1	439.5	0.0	0.0	0.0
162	Mandatory paydown (% of original)			% of available cash used	10%	5%	5%	5%	5%
163	Cash sweep			100%	639.7	1,374.2	2,186.6	3,046.7	3,972.0
164									
165	Term Loan B								
166	Term Loan B, BOP								
167	Mandatory amortization \$								
168	Cash sweep (paydown from excess cash flows)								
169	Term Loan B, EOP								
170	Mandatory paydown (% of original)			% of available cash used	5%	5%	5%	5%	5%
171	Cash available for cash sweep			100%					
172									

## Check your work

Notice that since all our excess cash was used to pay Term A, there was none left for term loan B until 2016, once term A was fully paid off

	F171				F	G	H	I	J
A	B	C	D	E					
144	Revolver								
145	Cash, BOP				180.0	819.7	1,554.2	2,366.6	3,226.7
146	Less: Minimum cash desired				180.0	180.0	180.0	180.0	180.0
147	Equals: Excess cash at BOP				0.0	639.7	1,374.2	2,186.6	3,046.7
148	Plus: Free cash flows generated during period				639.7	734.5	812.4	860.1	925.3
149	Cash available (needed) to paydown (draw from) revolver				639.7	1,374.2	2,186.6	3,046.7	3,972.0
150									
151	Revolver, BOP				0.0	0.0	0.0	0.0	0.0
152	Increases / (decreases)				0.0	0.0	0.0	0.0	0.0
153	Revolver, EOP				0.0	0.0	0.0	0.0	0.0
154	Maximum availability		% AR	% Inventory	510.7	538.8	571.2	599.7	628.5
155	Compliance check		80%	65%	OK	OK	OK	OK	OK
156									
157	Term Loan A								
158	Term Loan A, BOP				2,886.4	1,958.1	439.5	0.0	0.0
159	Mandatory paydown \$				288.6	144.3	144.3	0.0	0.0
160	Cash sweep (paydown from excess cash flows)				639.7	1,374.2	295.2	0.0	0.0
161	Term Loan A, EOP				1,958.1	439.5	0.0	0.0	0.0
162	Mandatory paydown (% of original)			% of available cash used	10%	5%	5%	5%	5%
163	Cash sweep			100%	639.7	1,374.2	2,186.6	3,046.7	3,972.0
164									
165	Term Loan B								
166	Term Loan B, BOP				670.9	637.3	603.8	0.0	0.0
167	Mandatory amortization \$				33.5	33.5	33.5	0.0	0.0
168	Cash sweep (paydown from excess cash flows)				0.0	0.0	570.2	0.0	0.0
169	Term Loan B, EOP				637.3	603.8	0.0	0.0	0.0
170	Mandatory paydown (% of original)			% of available cash used	5%	5%	5%	5%	5%
171	Cash available for cash sweep			100%	0.0	0.0	1,891.4	3,046.7	3,972.0

## Forecasting bonds & preferred stock

- BMC issued a \$1.6b bond as part of the LBO
- Required principal paydown is rare but not completely impossible for notes/bonds
- Discretionary payments going towards bond payments are also uncommon for a variety of reasons, including call protection and covenants protecting the senior tranches
- Although BMC didn't issue preferred stock or a subordinated note in the LBO, you see these frequently. Paid-in-kind interest is more common in subordinated bonds and preferred stock than in bank debt, so we include that possibility there. Let's assume 12% rate on both, a 4% PIK/8% cash

A	B	C	D	E	F	G	H	I	J
169	Term Loan B, EOP				637.3	603.8	0.0	0.0	0.0
170	Mandatory paydown (% of original)			% of available cash used	5%	5%	5%	5%	5%
171	Cash available for cash sweep			100%	0.0	0.0	1,891.4	3,046.7	3,972.0
172									
173	<u>Senior Note</u>								
174	Senior Note, BOP								
175	Mandatory amortization \$								
176	Senior Note, EOP								
177	Mandatory paydown (% of original)				0%	0%	0%	0%	0%
178									
179	<u>Sub Note</u>								
180	Sub Note, BOP								
181	Mandatory amortization \$	PIK rate	Cash rate						
182	PIK interest	4%	8%						
183	Sub Note, EOP								
184	Mandatory paydown (% of original)				0%	0%	0%	0%	0%
185									
186	<u>Preferred stock</u>								
187	Preferred stock, BOP								
188	PIK accrual								
189	Preferred stock, EOP	PIK rate	Cash rate						
190	Cash dividend	4%	8%						
191									

## Check your work

- Recall that PIK interest accrues to the principal whereas cash interest does not

A	B	C	D	E	F	G	H	I	J
169	Term Loan B, EOP				637.3	603.8	0.0	0.0	0.0
170	Mandatory paydown (% of original)			% of available cash used	5%	5%	5%	5%	5%
171	Cash available for cash sweep			100%	0.0	0.0	1,891.4	3,046.7	3,972.0
172									
173	<u>Senior Note</u>								
174	Senior Note, BOP				1,633.0	1,633.0	1,633.0	1,633.0	1,633.0
175	Mandatory amortization \$				0.0	0.0	0.0	0.0	0.0
176	Senior Note, EOP				1,633.0	1,633.0	1,633.0	1,633.0	1,633.0
177	Mandatory paydown (% of original)				0%	0%	0%	0%	0%
178									
179	<u>Sub Note</u>								
180	Sub Note, BOP				0.0	0.0	0.0	0.0	0.0
181	Mandatory amortization \$	PIK rate	Cash rate		0.0	0.0	0.0	0.0	0.0
182	PIK interest	4%	8%		0.0	0.0	0.0	0.0	0.0
183	<u>Sub Note, EOP</u>				0.0	0.0	0.0	0.0	0.0
184	Mandatory paydown (% of original)				0%	0%	0%	0%	0%
185									
186	<u>Preferred stock</u>								
187	Preferred stock, BOP				0.0	0.0	0.0	0.0	0.0
188	PIK accrual				0.0	0.0	0.0	0.0	0.0
189	Preferred stock, EOP	PIK rate	Cash rate		0.0	0.0	0.0	0.0	0.0
190	Cash dividend	4%	8%		0.0	0.0	0.0	0.0	0.0
191									

## Complete the capitalized financing fee schedule

At the beginning of the course we addressed how financing fees are capitalized and amortized over the term of the associated borrowing and then calculated an annual amortization of \$9.7m. In the schedule below, identify the B/S asset and show how it gets reduced every year by the amortization.

A	B	C	D	E	F	G	H	I	J	
22	Fees (transaction & financing)		204.5							
23	<b>Total Uses</b>		<b>8,252.5</b>							
24										
25	<b>SOURCES OF FUNDS</b>				<b>FEES</b>					
26		EBITDA turns	\$ investment			% fees	Fee	Term	Fee amort / year	
27	Excess cash	1.59x	1,401.9		<i>Financing fees</i>					
28	Revolver	0.00x	0.0		Revolver	1.0%	0.0	5 yrs	0.0	
29	Term Loan A	3.27x	2,886.4		Term Loan A	1.5%	43.3	7 yrs	6.2	
30	Term Loan B	0.76x	670.9		Term Loan B	1.5%	10.1	7 yrs	1.4	
31	Senior Note	1.85x	1,633.0		Senior Note	1.0%	16.3	8 yrs	2.0	
32	Sub Note	0.00x	0.0		Sub Note	0.0%	0.0	0 yrs	NM	
33	Preferred stock	0.00x	0.0		<b>Financing fees</b>		<b>69.7</b>		9.7	
34	Mgmt rollover	0.00x	0.0							
35	Sponsor equity	1.88x	1,660.3			% of offer value	Fee			
36	<b>Total Sources</b>	<b>9.35x</b>	<b>8,252.5</b>		<b>Trans. fees</b>	<b>2.0%</b>	<b>134.8</b>			
188	PIK accrual					0.0	0.0	0.0	0.0	
189	<b>Preferred stock, EOP</b>					<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
190	<i>Cash dividend</i>	<i>PIK rate</i>	<i>Cash rate</i>			<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	
191										
192	<u>Capitalized financing fees</u>									
193	Capitalized financing fees, BOP					69.7	60.0	50.4	40.7	31.0
194	Amortization					(9.7)	(9.7)	(9.7)	(9.7)	(9.7)
195	<b>Capitalized financing fees, EOP</b>					<b>60.0</b>	<b>50.4</b>	<b>40.7</b>	<b>31.0</b>	<b>21.4</b>

## Forecast interest expense. Keep in mind the following:

1. BMC's loans (and bank debt in general) are priced at a spread over LIBOR, along with a minimum LIBOR (LIBOR floor). A best practice is to use LIBOR forward curve for LIBOR forecasts. Bonds are usually priced off a fixed rate.
2. Because PIK interest is non-cash, you will need to distinguish between it and cash interest to make sure we forecast cash flows correctly.
3. Lastly, interest from revolver and term loans all need to be calculated of average BOP and EOP debt balances.
4. As a result, these tranches need circularity breakers because the interest expense, once linked to the IS from these tranches, will reduce the amount of cash available to pay down the tranches, reducing the interest expense itself.
5. The senior and sub notes don't have this issue because there is no cash sweep.
6. For the sub note, calculate cash interest by multiplying the cash % rate by the BOP less mandatory amortization to avoid commingling PIK interest.

193	Capitalized financing fees, BOP		69.7	60.0	50.4	40.7	31.0	
194	Amortization		(9.7)	(9.7)	(9.7)	(9.7)	(9.7)	
195	<b>Capitalized financing fees, EOP</b>		<b>60.0</b>	<b>50.4</b>	<b>40.7</b>	<b>31.0</b>	<b>21.4</b>	
<b>INTEREST EXPENSE</b>								
Fiscal year								
198	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
199	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
200	3-Month LIBOR Rate (bps)							
201				49	83	135	184	221
202		LIBOR Spread	LIBOR floor	Coupon Rate				
203	Revolver	L + 4%	0.0%					
204	Term Loan A	L + 4%	1.0%					
205	Term Loan B	L + 4%	0.0%					
206	Senior Note			8.125%				
207	Sub Note - Cash interest			8.000%				
208	Sub Note - PIK interest			4.000%				
209								
210								

## Check your work

F203									
A	B	C	D	E	F	G	H	I	J
193	Capitalized financing fees, BOP				69.7	60.0	50.4	40.7	31.0
194	Amortization				(9.7)	(9.7)	(9.7)	(9.7)	(9.7)
195	<b>Capitalized financing fees, EOP</b>				<b>60.0</b>	<b>50.4</b>	<b>40.7</b>	<b>31.0</b>	<b>21.4</b>
196									
197	<b>INTEREST EXPENSE</b>								
198	Fiscal year	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
199	<i>Fiscal year end date</i>	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
200									
201	3-Month LIBOR Rate (bps)				49	83	135	184	221
202		LIBOR Spread	LIBOR floor	Coupon Rate					
203	Revolver	L + 4%	0.0%		0.0	0.0	0.0	0.0	0.0
204	Term Loan A	L + 4%	1.0%		121.1	59.9	11.8	0.0	0.0
205	Term Loan B	L + 4%	0.0%		29.4	30.0	16.1	0.0	0.0
206	Senior Note			8.125%	132.7	132.7	132.7	132.7	132.7
207	Sub Note - Cash interest			8.000%	0.0	0.0	0.0	0.0	0.0
208	Sub Note - PIK interest			4.000%	0.0	0.0	0.0	0.0	0.0

## Complete the IS

	B	C	D	E	F	G	H	I	J
38	x INCOME STATEMENT								
39	Fiscal year	2011A	2012A	2013A	2014P	2015P	2016P	2017P	2018P
40	Fiscal year end date	3/31/11	3/31/12	3/31/13	3/31/14	3/31/15	3/31/16	3/31/17	3/31/18
41									
42	Revenue	2,065.3	2,172.0	2,201.4	2,278.4	2,403.8	2,548.0	2,675.4	2,803.8
43	Cost of sales (enter as -)	(485.2)	(568.9)	(592.0)	(581.6)	(601.6)	(624.9)	(642.8)	(659.6)
44	<b>Gross Profit</b>	<b>1,580.1</b>	<b>1,603.1</b>	<b>1,609.4</b>	<b>1,696.9</b>	<b>1,802.2</b>	<b>1,923.1</b>	<b>2,032.6</b>	<b>2,144.2</b>
45	Research & development (enter as -)	(181.6)	(165.2)	(174.6)	(184.8)	(194.9)	(206.6)	(217.0)	(227.4)
46	Selling, general & administrative (enter	(865.7)	(894.0)	(969.4)	(965.4)	(994.5)	(1,028.6)	(1,053.3)	(1,075.8)
47	<b>Operating profit (EBIT)</b>	<b>532.8</b>	<b>543.9</b>	<b>465.4</b>	<b>546.7</b>	<b>612.8</b>	<b>687.8</b>	<b>762.3</b>	<b>841.0</b>
48	Interest income	15.0	10.6	8.3	0.9	0.9	0.9	0.9	0.9
49	Interest expense (enter as -)	(19.8)	(23.3)	(47.8)	(297.0)	(276.1)	(257.2)	(231.5)	(193.2)
50	Other non-operating expense (enter as -)	3.3	(1.2)	2.0	0.0	0.0	0.0	0.0	0.0
51	<b>Pretax profit</b>	<b>531.3</b>	<b>530.0</b>	<b>427.9</b>	<b>250.6</b>	<b>337.6</b>	<b>431.5</b>	<b>531.8</b>	<b>648.7</b>
52	Taxes (enter expense as -)	(75.1)	(129.0)	(96.9)	(56.8)	(76.5)	(97.7)	(120.4)	(146.9)
53	<b>Net income</b>	<b>456.2</b>	<b>401.0</b>	<b>331.0</b>	<b>193.9</b>	<b>261.2</b>	<b>333.8</b>	<b>411.4</b>	<b>501.8</b>
54									
55	<u>EBITDA reconciliation</u>								
56	<b>EBIT (GAAP)</b>	<b>532.8</b>	<b>543.9</b>	<b>465.4</b>	<b>546.7</b>	<b>612.8</b>	<b>687.8</b>	<b>762.3</b>	<b>841.0</b>
57	Depreciation and amortization	190.0	224.6	229.0	223.9	220.6	222.4	224.2	223.0
58	Stock based compensation	106.5	127.2	147.4	161.1	162.1	163.7	163.6	162.9
59	Restructuring and other nonrecurring	14.3	10.8	40.9	16.0	5.0	5.0	0.0	0.0
60	<b>EBITDA</b>	<b>843.6</b>	<b>906.5</b>	<b>882.7</b>	<b>947.7</b>	<b>1,000.5</b>	<b>1,078.9</b>	<b>1,150.1</b>	<b>1,226.9</b>

## Complete the CFS

Make sure your signs are correct!

Notice how it is now quite easy to see that all excess cash flows are going to service debt

A	B	C	D	E	F	G	H	I	J
104									
105	Goodwill and other assets		1,940.3	1,935.2	1,935.2	1,935.2	1,935.2	1,935.2	1,935.2
106									
107	Other liabilities		232.4	252.0	252.0	252.0	252.0	252.0	252.0
108									
109	<b>CASH FLOW STATEMENT</b>								
110	<i>Fiscal year</i>			2014P	2015P	2016P	2017P	2018P	
111	Fiscal year end date			3/31/14	3/31/15	3/31/16	3/31/17	3/31/18	
112									
113	Net income			193.9	261.2	333.8	411.4	501.8	
114	Depreciation and amortization			223.9	220.6	222.4	224.2	223.0	
115	Stock based compensation			161.1	162.1	163.7	163.6	162.9	
116	Changes in net working capital			56.8	95.1	109.4	96.5	97.2	
117	Other assets & liabilities			0.0	0.0	0.0	0.0	0.0	
118	Addback of PIK interest			0.0	0.0	0.0	0.0	0.0	
119	<b>Cash from operating activities</b>			635.7	738.9	829.3	895.6	984.9	
120									
121	Capital expenditures			(26.0)	(28.0)	(30.0)	(29.0)	(31.0)	
122	Purchases of intangible assets and capitalized software development costs			(201.0)	(194.0)	(193.0)	(196.0)	(192.0)	
123	<b>Cash from investing activities</b>			(227.0)	(222.0)	(223.0)	(225.0)	(223.0)	
124									
125	Required debt principal payments			(322.2)	(177.9)	(177.9)	(177.9)	(177.9)	
126	Preferred dividend (cash)			0.0	0.0	0.0	0.0	0.0	
127	<b>Pre-revolver cash flows</b>			86.5	339.0	428.4	492.7	584.0	
128	Revolver			0.0	0.0	0.0	0.0	0.0	
129	<b>Post-revolver cash flows</b>			86.5	339.0	428.4	492.7	584.0	
130	Discretionary Term A paydown			(86.5)	(339.0)	(428.4)	(492.7)	(584.0)	
131	Discretionary Term B paydown			0.0	(0.0)	0.0	(0.0)	0.0	
132	<b>Net change in cash during period</b>			0.0	(0.0)	0.0	(0.0)	0.0	

# Let's Model

The following modeling steps cover:

- Exit Valuation
- Returns Analysis
- Summary Statistics
- Sensitivity Analysis

Open the following files to begin:

- Workfile3.xlsx

# We're ready to analyze this deal!

- We are now ready to figure out, based on our forecasts of cash flows and our exit valuation assumption, what the returns are going to look like for all providers of capital in the BMC deal
- This is what we've been building up towards

## Let's build a sensitivity around our initial assumption that BMC exits at the same EBITDA multiple as entry

- This is important because the exit multiple is critical to the IRR output of the model and this is a valuation that the sponsors can really only guess at when doing the initial analysis
- While it varies across LBOs, it's generally considered aggressive to assume a higher exit multiple than entry and overly conservative to assume a lower multiple. Nonetheless, macroeconomic and company-specific events often lead to significant deviations at exit from the entry multiple and as a result, this merits a sensitivity analysis

COUNTIF										
A	B	C	D	E	F	G	H	I	J	
211										
212										
213										
214	EBITDA multiple at exit				Step	6.3x	6.8x	7.3x	7.8x	8.3x
215	EBITDA at exit				0.5x	1,226.9	1,226.9	1,226.9	1,226.9	1,226.9
216	Enterprise value					7,729.3	=G214*G215	8,956.2	9,569.6	10,183.1
217	Net debt:									
218	Revolver									
219	Term Loan A									
220	Term Loan B									
221	Senior Note									
222	Sub Note									
223	Pref. stock									
224	Cash									
225	Equity value				Initial equity inv.	% ownership	Fully diluted			
226	Sponsor equity				1,660	100.0%				
227	Mgmt equity				0	0.0%				
228	Pref. stock					0.0%	2.0%			
229	Sub. Note					0.0%	1.0%			
230										

Assumed exit on March 31, 2018

## Work your way down to arrive at equity value

- To get to equity value at exit , all we need to do is subtract the exit year net debt from enterprise value as illustrated

A	B	C	D	E	F	G	H	I	J	
209										
210	EXIT VALUATION									
211										
212						<i>Assumed exit on March 31, 2018</i>				
213										
214	EBITDA multiple at exit			Step	6.3x	6.8x	7.3x	7.8x	8.3x	
215	EBITDA at exit			0.5x	1,226.9	1,226.9	1,226.9	1,226.9	1,226.9	
216	Enterprise value				7,729.3	8,342.7	8,956.2	9,569.6	10,183.1	
217	Net debt:									
218	Revolver				0.0	0.0	0.0	0.0	0.0	
219	Term Loan A				89.8	89.8	89.8	89.8	89.8	
220	Term Loan B				503.1	503.1	503.1	503.1	503.1	
221	Senior Note				1,633.0	1,633.0	1,633.0	1,633.0	1,633.0	
222	Sub Note				0.0	0.0	0.0	0.0	0.0	
223	Pref. stock				0.0	0.0	0.0	0.0	0.0	
224	Cash				(180.0)	(180.0)	(180.0)	(180.0)	(180.0)	
225	Equity value	Initial equity inv.	% ownership	Fully diluted		5,683.4	6,296.8	6,910.3	7,523.7	8,137.1
226	Sponsor equity	1,660	100.0%							
227	Mgmt equity	0	0.0%							
228	Pref. stock		0.0%	2.0%						
229	Sub. Note		0.0%	1.0%						

# Preferred stock confusion

- When management rolls over equity, they may get the same equity as the equity held by the sponsors, but some PE firms will structure their equity ownership as preferred stock which converts to equity upon exit
  - Gives PE firm preferences over the other equity owners (dividends, liquidation pref., special voting, etc.)
  - Barring a clear understanding of these differences, we simply model sponsor equity as common equity and it is treated like roll-over equity

# Preferred stock confusion

- Preferred stock that is used as a non-sponsor source of funds may have an annual dividend (PIK or cash), may be an equity kicker, but usually principle is returned and not converted to equity.
- Dilutes both sponsors and management at exit

## To calculate returns we need to understand what % each equity class will own at exit

- The owner percentages at entry are often NOT THE SAME as at exit due to warrants, preferred stock, etc.
- Complete the 'fully diluted' column in the table assuming the following:
  - Management rollover (although 0 in the BMC deal) would be treated identically to financial sponsors
  - 2% dilution from non-sponsor preferred and 1% from sub notes (this wasn't the case with BMC, but let's pretend so you see how this would affect returns – we'll zero it out at the end)

A	B	C	D	E	F	G	H	I	J
209									
210	<b>EXIT VALUATION</b>								
211									
212	<i>Assumed exit on March 31, 2018</i>								
213									
214	EBITDA multiple at exit			Step	6.3x	6.8x	7.3x	7.8x	8.3x
215	EBITDA at exit			0.5x	1,226.9	1,226.9	1,226.9	1,226.9	1,226.9
216	Enterprise value				7,729.3	8,342.7	8,956.2	9,569.6	10,183.1
217	Net debt:								
218	Revolver				0.0	0.0	0.0	0.0	0.0
219	Term Loan A				89.8	89.8	89.8	89.8	89.8
220	Term Loan B				503.1	503.1	503.1	503.1	503.1
221	Senior Note				1,633.0	1,633.0	1,633.0	1,633.0	1,633.0
222	Sub Note				0.0	0.0	0.0	0.0	0.0
223	Pref. stock				0.0	0.0	0.0	0.0	0.0
224	Cash				(180.0)	(180.0)	(180.0)	(180.0)	(180.0)
225	Equity value	Initial equity inv.	% ownership	Fully diluted	5,683.4	6,296.8	6,910.3	7,523.7	8,137.1
226	Sponsor equity	1,660	100.0%						
227	Mgmt equity	0	0.0%						
228	Pref. stock		0.0%	2.0%					
229	Sub. Note		0.0%	1.0%					

## Check your formula

	A	B	C	D	E	F	G
211							
212							
213							
214	EBITDA multiple at exit				Step	6.3x	
215	EBITDA at exit				0.5x	1,226.9	1,2
216	Enterprise value					7,729.3	8,3
217	<u>Net debt:</u>						
218	Revolver					0.0	
219	Term Loan A					89.8	
220	Term Loan B					503.1	5
221	Senior Note					1,633.0	1,6
222	Sub Note					0.0	
223	Pref. stock					0.0	
224	Cash					(180.0)	(1
225	<b>Equity value</b>					5,683.4	6,2
226	Sponsor equity		Initial equity inv.	% ownership	Fully diluted		
227	Mgmt equity	1,660	= $(1-\$E\$229-\$E\$228)*(D226/SUM(\$D\$226:\$D\$227))$	0.0%	0.0%		
228	Pref. stock	0		0.0%	0.0%		
229	Sub. Note			2.0%	2.0%		
230				0.0%	1.0%		

## Complete the equity value section

A	B	C	D	E	F	G	H	I	J
208	Sub Note - PIK interest			4.000%	0.0	0.0	0.0	0.0	0.0
209									
210	<b>EXIT VALUATION</b>								
211									
212						<i>Assumed exit on March 31, 2018</i>			
213									
214	EBITDA multiple at exit			Step	6.3x	6.8x	7.3x	7.8x	8.3x
215	EBITDA at exit			0.5x	1,226.9	1,226.9	1,226.9	1,226.9	1,226.9
216	Enterprise value				7,729.3	8,342.7	8,956.2	9,569.6	10,183.1
217	<u>Net debt:</u>								
218	Revolver				0.0	0.0	0.0	0.0	0.0
219	Term Loan A				89.8	89.8	89.8	89.8	89.8
220	Term Loan B				503.1	503.1	503.1	503.1	503.1
221	Senior Note				1,633.0	1,633.0	1,633.0	1,633.0	1,633.0
222	Sub Note				0.0	0.0	0.0	0.0	0.0
223	Pref. stock				0.0	0.0	0.0	0.0	0.0
224	Cash				(180.0)	(180.0)	(180.0)	(180.0)	(180.0)
225	<b>Equity value</b>	<u>Initial equity inv.</u>	% ownership	Fully diluted	5,683.4	6,296.8	6,910.3	7,523.7	8,137.1
226	Sponsor equity	1,660	100.0%	97.0%	5,512.9	6,107.9	6,702.9	7,298.0	7,893.0
227	Mgmt equity	0	0.0%	0.0%	0.0	0.0	0.0	0.0	0.0
228	Pref. stock		0.0%	2.0%	113.7	125.9	138.2	150.5	162.7
229	Sub. Note		0.0%	1.0%	56.8	63.0	69.1	75.2	81.4
230									

A	B	C	D	E	F	G	H	I	J
25	SOURCES OF FUNDS				FEES				
26		EBITDA turns	\$ investment			% fees	Fee	Term	Fee amort / year
27	Excess cash	1.59x	1,401.9		Financing fees				
28	Revolver	0.00x	0.0		Revolver	1.0%	0.0	5 yrs	0.0
29	Term Loan A	3.27x	2,886.4		Term Loan A	1.5%	43.3	7 yrs	6.2
30	Term Loan B	0.76x	670.9		Term Loan B	1.5%	10.1	7 yrs	1.4
31	Senior Note	1.85x	1,633.0		Senior Note	1.0%	16.3	8 yrs	2.0
32	Sub Note	0.00x	0.0		Sub Note	0.0%	0.0	0 yrs	NM
33	Preferred stock	0.00x	0.0		Financing fees		69.7		9.7
34	Mgmt rollover	0.00x	0.0			% of offer value	Fee		
35	Sponsor equity	1.88x	1,660.3			Trans. fees	2.0%	134.8	
36	Total Sources	9.35x	8,252.5						
230									
231	RETURNS								
232		Cash-on-cash	IRR	Initial	2014P	2015P	2016P	2017P	2018P
233	Revolver	NM	0%	=D28	0.0	0.0	0.0	0.0	0.0
234	Term Loan A	1.15x	5%	(2,886.4)	510.1	596.8	665.9	703.5	846.3
235	Term Loan B	1.23x	5%	(670.9)	62.9	63.5	64.9	65.9	569.0
236	Senior Note	1.41x	8%	(1,633.0)	132.7	132.7	132.7	132.7	1,765.7
237	Sub Note at exit EBITDA multiple of:								
238	6.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	56.8
239	6.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	63.0
240	7.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	69.1
241	7.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	75.2
242	8.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	81.4
243	Preferred Stock at exit EBITDA multiple of:								
244	6.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	113.7
245	6.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	125.9
246	7.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	138.2
247	7.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	150.5
248	8.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	162.7
249	Management Equity at exit EBITDA multiple of:								
250	6.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
251	6.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
252	7.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
253	7.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
254	8.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
255	Sponsor's Equity at exit EBITDA multiple of:								
256	6.3x	3.32x	27%	(1,660.3)	0.0	0.0	0.0	0.0	5,512.9
257	6.8x	3.68x	30%	(1,660.3)	0.0	0.0	0.0	0.0	6,107.9
258	7.3x	4.04x	32%	(1,660.3)	0.0	0.0	0.0	0.0	6,702.9
259	7.8x	4.40x	34%	(1,660.3)	0.0	0.0	0.0	0.0	7,298.0
260	8.3x	4.75x	37%	(1,660.3)	0.0	0.0	0.0	0.0	7,893.0

We're going to calculate returns for all providers of capital

Lets start with TLA/B and the Senior Note

IRRs and cash on cash returns are calculated by looking at cash outflows compared to inflows.

Remember that debt inflows to lenders include interest payments.

In the final year we need to capture any remaining debt balances under the assumption they would be refinanced at exit.

A	B	C	D	E	F	G	H	I	J
156									
157	<u>Term Loan A</u>								
158	Term Loan A, BOP				2,886.4	2,511.3	2,027.9	1,455.2	818.1
159	Mandatory paydown \$				288.6	144.3	144.3	144.3	144.3
160	Cash sweep (paydown from excess cash flows)				86.5	339.0	428.4	492.7	584.0
161	<u>Term Loan A, EOP</u>				2,511.3	2,027.9	1,455.2	818.1	89.8
162	<i>Mandatory paydown (% of original)</i>			<u>% of available cash used</u>	10%	5%	5%	5%	5%
163	<i>Cash sweep</i>				100%	86.5	339.0	428.4	492.7
164									
165	<u>Term Loan B</u>								
166	Term Loan B, BOP				670.9	637.3	603.8	570.2	536.7
167	Mandatory amortization \$				33.5	33.5	33.5	33.5	33.5
168	Cash sweep (paydown from excess cash flows)				0.0	0.0	0.0	0.0	0.0
169	<u>Term Loan B, EOP</u>				637.3	603.8	570.2	536.7	503.1
170	<i>Mandatory paydown (% of original)</i>			<u>% of available cash used</u>	5%	5%	5%	5%	5%
171	<i>Cash available for cash sweep</i>				100%	0.0	0.0	0.0	0.0
172									
173	<u>Senior Note</u>								
174	Senior Note, BOP				1,633.0	1,633.0	1,633.0	1,633.0	1,633.0
175	Mandatory amortization \$				0.0	0.0	0.0	0.0	0.0
176	<u>Senior Note, EOP</u>				1,633.0	1,633.0	1,633.0	1,633.0	1,633.0
230									
231	<b>RETURNS</b>								
232		Cash-on-cash	IRR	Initial	2014P	2015P	2016P	2017P	2018P
233	Revolver	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
234	Term Loan A	1.15x	5%	(2,886.4)	510.1	596.8	=H159+H160+H204		846.3
235	Term Loan B	1.23x	5%	(670.9)	62.9	63.5	64.9	65.9	569.0
236	Senior Note	1.41x	8%	(1,633.0)	132.7	132.7	132.7	132.7	1,765.7
237	Sub Note at exit FBITDA multiple of:								

The annual inflows capture principal paydown and interest payments...

A	B	C	D	E	F	G	H	I	J	K	
210	EXIT VALUATION										
211											
212									Assumed exit on March 31, 2018		
213											
214	EBITDA multiple at exit			Step	6.3x	6.8x	7.3x	7.8x	8.3x		
215	EBITDA at exit			0.5x	1,226.9	1,226.9	1,226.9	1,226.9	1,226.9		
216	Enterprise value				7,729.3	8,342.7	8,956.2	9,569.6	10,183.1		
217	Net debt:										
218	Revolver				0.0	0.0	0.0	0.0	0.0		
219	Term Loan A				89.8	89.8	89.8	89.8	89.8		
220	Term Loan B				503.1	503.1	503.1	503.1	503.1		
221	Senior Note				1,633.0	1,633.0	1,633.0	1,633.0	1,633.0		
222	Sub Note				0.0	0.0	0.0	0.0	0.0		
223	Pref. stock				0.0	0.0	0.0	0.0	0.0		
224	Cash				(180.0)	(180.0)	(180.0)	(180.0)	(180.0)		
225	Equity value			Initial equity inv.	% ownership	Fully diluted	5,683.4	6,296.8	6,910.3	7,523.7	8,137.1
226	Sponsor equity			1,660	100.0%	97.0%	5,512.9	6,107.9	6,702.9	7,298.0	7,893.0
227	Mgmt equity			0	0.0%	0.0%	0.0	0.0	0.0	0.0	0.0
228	Pref. stock				0.0%	2.0%	113.7	125.9	138.2	150.5	162.7
229	Sub. Note				0.0%	1.0%	56.8	63.0	69.1	75.2	81.4
230											
231	RETURNS										
232				Cash-on-cash	IRR	Initial	2014P	2015P	2016P	2017P	2018P
233	Revolver			NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
234	Term Loan A			1.15x	5%	(2,886.4)	510.1	596.8	665.9	703.5	=J159+J160+J204+F219
235	Term Loan B			1.23x	5%	(670.9)	62.9	63.5	64.9	65.9	569.0
236	Senior Note			1.41x	8%	(1,633.0)	132.7	132.7	132.7	132.7	1,765.7
237	Sub Note at exit EBITDA multiple of:										

...While the exit year also captures the outstanding debt balance

A	B	C	D	E	F	G	H	I	J
210	EXIT VALUATION								
211									
212									
213									
214	EBITDA multiple at exit				Step	6.3x	6.8x	7.3x	7.8x
215	EBITDA at exit				0.5x	1,226.9	1,226.9	1,226.9	1,226.9
216	Enterprise value					7,729.3	8,342.7	8,956.2	9,569.6
217	Net debt:								8.3
218	Revolver					0.0	0.0	0.0	0.0
219	Term Loan A					89.8	89.8	89.8	89.
220	Term Loan B					503.1	503.1	503.1	503.
221	Senior Note					1,633.0	1,633.0	1,633.0	1,633.
222	Sub Note					0.0	0.0	0.0	0.
223	Pref. stock					0.0	0.0	0.0	0.
224	Cash					(180.0)	(180.0)	(180.0)	(180.)
225	Equity value	Initial equity inv.	% ownership	Fully diluted		5,683.4	6,296.8	6,910.3	7,523.7
226	Sponsor equity	1,660	100.0%	97.0%		5,512.9	6,107.9	6,702.9	7,298.0
227	Mgmt equity	0	0.0%	0.0%		0.0	0.0	0.0	0.
228	Pref. stock		0.0%	2.0%		113.7	125.9	138.2	150.5
229	Sub. Note		0.0%	1.0%		56.8	63.0	69.1	75.2
230									81
231	RETURNS								
221	Senior Note					1,633.0	1,633.0	1,633.0	1,633.
222	Sub Note					0.0	0.0	0.0	0.
223	Pref. stock					0.0	0.0	0.0	0.
224	Cash					(180.0)	(180.0)	(180.0)	(180.)
225	Equity value	Initial equity inv.	% ownership	Fully diluted		5,683.4	6,296.8	6,910.3	7,523.7
226	Sponsor equity	1,660	100.0%	97.0%		5,512.9	6,107.9	6,702.9	7,298.0
227	Mgmt equity	0	0.0%	0.0%		0.0	0.0	0.0	0.0
228	Pref. stock		0.0%	2.0%		113.7	125.9	138.2	150.5
229	Sub. Note		0.0%	1.0%		56.8	63.0	69.1	75.2
230									81.4
231	RETURNS								
232		Cash-on-cash	IRR	Initial	2014P	2015P	2016P	2017P	2018P
233	Revolver	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
234	Term Loan A	1.15x	5%	(2,886.4)	510.1	596.8	665.9	703.5	846.3
235	Term Loan B	1.23x	5%	(670.9)	62.9	63.5	64.9	65.9	569.0
236	Senior Note	1.41x	8%	(1,633.0)	132.7	132.7	132.7	132.7	1,765.7
237	Sub Note at exit EBITDA multiple of:								
238	6.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	56.8
239	6.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	63.0
240	7.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	=J181+J207+H222+H229
241	7.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	75.2

We do the same thing with subordinated debt

The difference is that because of the equity kicker, the inflows at exit change depending on the exit multiple assumption. Also remember the PIK interest is not an inflow until the accrued principal is received at exit.

**Preferred stock:** Initial outflow is the investment, cash dividends would be a recurring inflow, while the final outflow captures any outstanding balances (inc. PIK accruals), final year dividends as well as the equity kicker.

**Management equity:** The value of the equity management initially rolls over is the initial outflow while, barring any dividends during the holding period, the only inflow comes at exit (it's hard to visualize this since there was no rollover in the BMC deal, but you can see the impact by inputting dummy numbers).

**Sponsor equity:** Virtually identical modeling to management rollover – the initial outflow is referenced from the sources and uses, and barring any dividends, the inflow comes at exit.

221	Senior Note			1,633.0	1,633.0	1,633.0	1,633.0	1,633.0
222	Sub Note			0.0	0.0	0.0	0.0	0.0
223	Pref. stock			0.0	0.0	0.0	0.0	0.0
224	Cash			(180.0)	(180.0)	(180.0)	(180.0)	(180.0)
225	<b>Equity value</b>	<b>Initial equity inv.</b>	<b>% ownership</b>	<b>Fully diluted</b>	<b>5,683.4</b>	<b>6,296.8</b>	<b>6,910.3</b>	<b>7,523.7</b>
226	Sponsor equity	1,660	100.0%	97.0%	5,512.9	6,107.9	6,702.9	7,298.0
227	Mgmt equity	0	0.0%	0.0%	0.0	0.0	0.0	0.0
228	Pref. stock		0.0%	2.0%	113.7	125.9	138.2	150.5
229	Sub. Note		0.0%	1.0%	56.8	63.0	69.1	75.2
230								
231	<b>RETURNS</b>							
242	8.3x	NM	0%	0.0	0.0	0.0	0.0	81.4
243	Preferred Stock at exit EBITDA multiple of:							
244	6.3x	NM	0%	0.0	0.0	0.0	0.0	113.7
245	6.8x	NM	0%	0.0	0.0	0.0	0.0	125.9
246	7.3x	NM	0%	0.0	0.0	0.0	0.0	138.2
247	7.8x	NM	0%	0.0	0.0	0.0	0.0	150.5
248	8.3x	NM	0%	0.0	0.0	0.0	0.0	162.7
249	Management Equity at exit EBITDA multiple of:							
250	6.3x	NM	0%	0.0	0.0	0.0	0.0	0.0
251	6.8x	NM	0%	0.0	0.0	0.0	0.0	0.0
252	7.3x	NM	0%	0.0	0.0	0.0	0.0	0.0
253	7.8x	NM	0%	0.0	0.0	0.0	0.0	0.0
254	8.3x	NM	0%	0.0	0.0	0.0	0.0	0.0
255	Sponsor's Equity at exit EBITDA multiple of:							
256	6.3x	3.32x	27%	(1,660.3)	0.0	0.0	0.0	=F226
257	6.8x	3.68x	30%	(1,660.3)	0.0	0.0	0.0	6,107.9
258	7.3x	4.04x	32%	(1,660.3)	0.0	0.0	0.0	6,702.9
259	7.8x	4.40x	34%	(1,660.3)	0.0	0.0	0.0	7,298.0
260	8.3x	4.75x	37%	(1,660.3)	0.0	0.0	0.0	7,893.0

261

**Returns can finally be calculated** IRR and cash-on cash returns are the typical ways that returns are analyzed and communicated

	B	C	D	E	F	G	H	I	J
231	<b>RETURNS</b>								
232		<b>Cash-on-cash</b>	<b>IRR</b>	<b>Initial</b>	<b>2014P</b>	<b>2015P</b>	<b>2016P</b>	<b>2017P</b>	<b>2018P</b>
233	Revolver	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
234	Term Loan A	1.15x	5%	(2,886.4)	510.1	596.8	665.9	703.5	846.3
235	Term Loan B	1.23x	5%	(670.9)	62.9	63.5	64.9	65.9	569.0
236	Senior Note	1.41x	8%	(1,633.0)	132.7	132.7	132.7	132.7	1,765.7
237	Sub Note at exit EBITDA multiple of:								
238	6.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	56.8
239	6.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	63.0
240	7.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	69.1
241	7.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	75.2
242	8.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	81.4
243	Preferred Stock at exit EBITDA multiple of:								
244	6.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	113.7
245	6.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	125.9
246	7.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	138.2
247	7.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	150.5
248	8.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	162.7
249	Management Equity at exit EBITDA multiple of:								
250	6.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
251	6.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
252	7.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
253	7.8x	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
254	8.3x	NM	0%	0.0	0.0	0.0	0.0	0.0	0.0
255	Sponsor's Equity at exit EBITDA multiple of:								
256	6.3x	=IFERROR(SUM(F256:J256)/-E256, "NM")		(1,660.3)	0.0	0.0	0.0	0.0	5,512.9
257	6.8x	3.68x	30%	(1,660.3)	0.0	0.0	0.0	0.0	6,107.9
258	7.3x	4.04x	32%	(1,660.3)	0.0	0.0	0.0	0.0	6,702.9
259	7.8x	4.40x	34%	(1,660.3)	0.0	0.0	0.0	0.0	7,298.0
260	8.3x	4.75x	37%	(1,660.3)	0.0	0.0	0.0	0.0	7,893.0

## **Before we continue – is this a good deal?**

- Based on the assumptions in our model, Golden Gate and Bain should expect a cash on cash return of 4x and IRR of 32%
- This is considered a very healthy return
- What assumptions are driving this result?
  - Exit multiple (economy, growth and risk prospects)
  - Operating assumptions
  - Debt repayment assumptions
  - Interest rate assumptions

## Summary statistics and sensitivity analysis

A	B	C	D	E	F	G	H	I	J
261									
262	SUMMARY AT 7.3x EXIT EBITDA MULTIPLE								
263					Financing	% of Total Capital	% FD Ownership	Cash-on-cash	Expected IRR
264	Revolver				0.0	0.0%		NM	0%
265	Term Loan A				2,886.4	42.1%		1.15x	5%
266	Term Loan B				670.9	9.8%		1.23x	5%
267	Senior Note				1,633.0	23.8%		1.41x	8%
268	Sub Note				0.0	0.0%	1.0%	NM	0%
269	Preferred stock				0.0	0.0%	2.0%	NM	0%
270	Mgmt rollover				0.0	0.0%	0.0%	NM	0%
271	Sponsor equity				1,660.3	24.2%	97.0%	4.04x	32%
272	<b>Total</b>				<b>6,850.6</b>	<b>100.0%</b>	<b>100.0%</b>		
273									

# Offer price sensitivity

- Up to now, we have built sensitivities around different exits, assuming a specific offer value
- In an LBO negotiation, it is the offer value that is being negotiated, so a key output for sponsors is a sensitivity around offer price given a required hurdle rate
  - “what offer price do I need to offer in order to achieve my hurdle rate?”
  - Another critical output in the LBO model

## Back into an implied offer value at various hurdle rates

You can see that a significant premium can only be offered if the sponsors have hurdle rates of less than 30%

E278		f <sub>x</sub>	=-(PV(E277,5,0,\$H\$226))+SUM(\$D\$27:\$D\$34)-\$D\$21-\$D\$22	D	E	F	G	H	I	J
273	A	B	C	D	E	F	G	H	I	J
274	SENSITIVITY ANALYSIS									
275										
276										
277	Sponsor Hurdle Rate (Minimum IRR)	32.20%	15.00%	20.00%	25.00%	30.00%	35.00%	40.00%		
278	Offer value	6,741.9	8,414	7,775	7,278	6,887	6,576	6,328		
279	Diluted shares outstanding	146	146	146	146	146	146	146		
280	Offer value / per share	46.25	57.72	53.34	49.93	47.24	45.12	43.41		
281	% Premium / discount	2%	27%	17%	10%	4%	(1%)	(4%)		
282										
283	Enterprise value	6,466	8,138	7,500	7,002	6,611	6,301	6,052		
284	EV / LTM EBITDA multiple	7.3x	9.2x	8.5x	7.9x	7.5x	7.1x	6.9x		
285										

### What's happening in this formula?

- In this formula, we are going backwards – at the model-derived sponsor equity value at exit and given a particular hurdle rate, what is the maximum offer value that can be offered to BMC shareholders at the onset of the LBO?<sup>1</sup>
- Go to next slide to get help with understanding this formula

<sup>1</sup>We ignore effects of changes in model-derived offer value on transaction and financing fees for simplicity

# Offer price sensitivity

- Explicitly assume a certain sponsor equity value at exit and using the hurdle rate as the discount rate to back into sponsor equity at deal date
- We add LBO debt and excess target cash used in the LBO to arrive at the total sources of funds
- Subtract refinanced debt and fees – the remainder is the implied offer value to oldco shareholders

Simple Example	
Sponsor Equity Value At Exit	1,000.0
Years From LBO	5.0
Hurdle Rate	15%
Max. Sponsor Equity At Deal Date	=PV(C5,C4,0,-C3)
Other Sources Of Capital (Debt, Excess Target Cash) At Deal Date	200.0
Total Sources Of Funds	697.2
Uses Of Funds	
Refinancing Debt	50.0
Fees	10.0
Offer value	637.2
Total uses Of Funds	697.2

## Core model is complete

As a finishing touch, link the correct share count from the shares outstanding schedule into the model. Notice that because we now estimate sponsors have more shares to acquire and thus more upfront capital to put in, the IRRs decline

4								
5	GENERAL INPUTS			INITIAL VALUATION				
6	Company name	BMC						
7	Ticker (if applicable)	BMC						
8	Current share price (if applicable)	45.42		Select a valuation approach:	Approach 2	Approach 1	Approach 2	
9	Latest closing share price date (if applicable)	5/6/2013			Explicit offer/share	Explicit EBITDA	Explicit offer/share	
10	Circuit breaker:	OFF		LTM EBITDA	882.7	882.7	882.7	
11				EV / LTM EBITDA	7.7x	8.0x	7.7x	
12	SELECT FINANCIAL DATA / ASSUMPTIONS			Enterprise value	6,776.8	7,061.6	6,776.8	
13	EBITDA (LTM)	882.7						
14	Gross Debt (input as a -)	(1,306)		Less: Gross Debt (latest filing)	(1,306.0)	(1,306.0)	(1,306.0)	
15	Cash	1,582		Plus: Cash (latest filing)	1,581.9	1,581.9	1,581.9	
16	Minimum cash desired	180						
17	EV / LTM EBITDA multiple at exit	7.3x		Offer value	7,052.7	7,337.5	7,052.7	
18				Diluted shares outstanding	=Shares!E14	152.5	152.5	
19	USES OF FUNDS							
20	Buyout of equity	7,052.7		Offer value / per share	46.25	48.12	46.25	
21	Refinancing of oldco debt	1,306.0		% Premium / discount	2%	6%	2%	

A	B	C	D	E	F	G	H	I	J
261									
262	SUMMARY AT 7.3x EXIT EBITDA MULTIPLE								
263					Financing	% of Total Capital	% FD Ownership	Cash-on-cash	Expected IRR
264	Revolver				0.0	0.0%		NM	0%
265	Term Loan A				2,886.4	40.3%		1.15x	5%
266	Term Loan B				670.9	9.4%		1.23x	5%
267	Senior Note				1,633.0	22.8%		1.41x	8%
268	Sub Note				0.0	0.0%	1.0%	NM	0%
269	Preferred stock				0.0	0.0%	2.0%	NM	0%
270	Mgmt rollover				0.0	0.0%	0.0%	NM	0%
271	Sponsor equity				1,977.3	27.6%	97.0%	3.39x	28%
272	Total				7,167.6	100.0%	100.0%		
273									

# Congratulations!

**The Learning Never Stops! Log into your  
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BMC Model to learn:**

- Pro Forma Balance Sheet Adjustments
- Dividend Recaps / PIK Toggles
- Advanced Purchase Price Allocation Modeling
- Attaching a DCF Analysis to an LBO Model